BRITISH GARHWAL.

A GAZETTEER,

BEING

VOLUME XXXVI

OF THE

DISTRICT GAZETTEERS OF THE UNITED PROVINCES OF AGRA AND OUDH.

BY

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GAZETTEER OF GARHWAL.

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PREFACE.

This volume is a revision of those parts of Mr. Atkinson's Himalayan Gazetteer which refer to the Garhwal district. The sources of my information have been chiefly that work and Mr. Pauw's Settlement Report, supplemented to a small extent by personal enquiries.

My acknowledgments are due to Mr. Stowell, the Deputy Commissioner, to Pandit Dharmanand Joshi, Rai Bahadur, and to the divisional forest officers for much information and assistance; and especially to Mr. McNair, formerly Deputy Commissioner, for his excellent preliminary compilation of material.

The notice of Tehri State attached to this volume is almost wholly a reproduction of the article in the Imperial Gazetteer.

H. G. W.

B

District Head-quarters	PAURI
Thana or Police Station	Kotdwara
Town or Village	*Chamoli*
Road	
District Boundary	
Pargana "	
Forest "	
Barahsyun Pargana	1
Badhan "	2
Chandpur "	3
Chaundkot "	4
Dewalgarh "	5
Dasauli "	6
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Photo.-Zinco., July, 1907—No 2651-1-863.

CHAPTER I.

GENERAL FEATURES.

British Garhwal—as distinguished from the native state of Tehri Garhwal—is one of the three districts of the Kumaon division of the United Provinces and it lies almost entirely within the Himalayan mountain system. The trend of the range is here due north-west and south-east, and the district, roughly rectangular in shape, has its greatest length of 121 miles at right angles to the direction of the range.* The breadth is on the average half the length of the district, which covers an area of 5,629 square miles, lying between 29° 26′ and 31° 5′ north latitude, and 78° 12′ and 80° 6′ east longitude. On the north the snowy range separates it from Tibet. On the south the cart-road at the foot of the hills forms the boundary between it and the Bijnor district, and on the west and north-west the river Ganges as far as Deoprayag, the Alaknanda as far as Rudraprayag, and the Mandagini as far as Agastmuni divide it from the district of Dehra Dun and the Tehri state. Above Agastmuni there is no natural line: the boundary of the district coincides with that of villages assigned to Tehri in 1815, when the Raj was resuscitated. Similarly on the east where Garhwal marches with Almora the boundary line is, as remarked by Mr' Pauw, "extremely irregular, the principle on which it was settled being merely that villages inhabited by Garhwalies were assigned to Garhwal and those inhabited by Kumaonis to Kumaon †—to such an extent are the two nationalities distinct." For many miles the boundary lies along a ridge covered with virgin forest of which no partition has yet been made between the rivals. Transfers of territory were frequent when the two states of Kumaon and Garhwal were constantly fighting, and not rare even after the British occupation—though due then to peaceful

Boundaries an area.

* Measured on the map. The distance by road from Chila in the south-west to the Niti pass is over 200 miles.

†Kumaon in popular language still means the districts of Naini Tal and Almora as distinguished from Garhwal, though officially the Kumaon division includes the Garhwal district.

migration. In 1839 Garhwal became a separate district with approximately its present boundaries.

General description.

The name Garhwal is usually explained as meaning the country of forts.* It might however also mean the country of gadhs —a gadh being the local term for a glen. The country consists of a succession of steep mountain ridges divided from each other by deep glens. Excepting the holm of Srinagar, the pasture of Panai on the banks of the Alaknanda and the submontane tract, there is no level land in the country. The glens occasionally open out as at the Lohba plateau, but usually they are narrow and precipitous. The traveller entering Garhwal from the east is at once struck with the more rugged character of the scenery which is in striking contrast to the milder aspect of the Kumaon hills he has left behind him.

The river Ganges.

Garhwal is drained entirely by the Ganges river and its affluents. Properly speaking the term Ganges is only applied to the river formed by the junction of the Alaknanda and the Bhagirathi at Deoprayag, but the Garhwali is rather careless in his nomenclature and is apt to call any river "Ganga." The Bhagirathi is however by general consent the more sacred of the two streams, and is usually called the Ganges and its source (in Tehri-Garhwal) Gangotri. The Alaknanda may be said to come into being at Vishnuprayag, the confluence of the Vishnuganga † and the Dhauliganga. The former of these rises in the hills above the Badrinath temple of Vishnu, from which it derives its name. The second has its source in the Niti Pass. The Alaknanda flows south-west to Nandprayag, where it receives the Nandakini, a river rising in the glaciers on the western slope of Trisul. Its next important affluent is the Pindar which, issuing from the Pindari glacier on the western slope of Nandakot in the Almora district, enters Garhwal at Harmal and draining the Badhan pargana merges its waters with those of the Alaknanda at Karanprayag. Hence the Alaknanda turns west as far as Rudrprayag where it receives the Mandagini from Kedarnath. From the confluence it turns south again and flowing past Srinagar is joined by the Bhagirathi from Tehri at Deoprayag, and the Nayar at Byansghat. This important

* Garhwal was according to tradition a 'Bawani' occupied by fifty-two chiefs each with his own fort.

† Commonly called the Bishanganga.

tributary drains the centre of the district. It is formed by the junction of two streams, the eastern and the western Nayar, both of which rise in the Dudatoli mountain, and have a general south-west course as far as the junction at Bhatkoli whence the united stream takes a sharp turn to the north-west. From Byansghat the Ganges flows almost due west as far as Lachhmanjhula having received the Huinl river at Phulari. From Lachhmanjhula to within a few miles of Hardwar it forms the boundary between Garhwal and Dehra Dun.

Ramganga. The Ramganga, like the two Nayars, rises in the Dudatoli range, where the sources of the three rivers are well protected by a vast area of almost virgin forest. It flows south-east to Melchauri, thence due east as far as the borders of the Almora district where it waters the fruitful Giwar valley, re-entering the Garhwal district near Marchula. Its chief tributary is the Mandal which drains the *pattis* to the east and south of Lansdowne.

Other rivers. The remaining rivers are small streams in Ganga Salan rising in the hills above the Bhabar, in which, after a course of about 20 miles, they lose themselves. The chief is the Khoh which, rising near Dwarikhal, is joined at Dogadda (" the confluence ") by the Lansdowne brook and debouches in the plains at Kotdwara.

Along the larger rivers the hills present gradual slopes at the base and end in a succession of narrow terraces and flats which are all dry and are as a rule cultivated. The soil varies greatly in the different valleys. That of the Alaknanda is somewhat sandy; of the Pindar, Ramganga and Nandakini is reddish clay, while that of the Nayar is clay mixed with shingle. The soil in the smaller valleys is usually very rich, being composed of washings from the hillsides.

Mountains. The snowy range. The mountain system of Garhwal can best be regarded as a series of spurs from the Tibetan watershed, which here separates the Ganges basin (in its larger sense) from that of the Sutlej. It has already been stated that this has a north-west and south-easterly direction. The great snow mountains which form such a conspicuous feature of Himalayan scenery lie not on this ridge, but from thirty to forty miles to the south-west of it. The principal ones in Garhwal may be divided into two groups, the Nanda Devi range and the Badrinath range. Each presents as

it were a snowy curtain stretching almost due east and west for 25 miles, the flanks of the former being the peaks of Nandakot and Trisul, of the latter the offshoots from the Badrinath or Chaukhamba and Kedarnath peaks respectively. Nanda Devi, a huge monolith, rises in grey outline behind the white snow curtain of Trisul, its southern face being so steep that the snow cannot lie on it. Each group sends out a spur towards the other, and at Pipalkoti on the Alaknanda these spurs, each towering a mile in vertical height above the river, approach within a few miles of each other and then drop suddenly down to the stream. This place is the gate of upper Garhwal, and behind the mountain ranges which flank it on either side lies the whole pargana of Painkhanda with an area of 1,592 square miles. Each of these groups is connected with the central watershed by another range hardly inferior in point of altitude to what have been called the main groups, though by reason of its position behind them, it is less conspicuous from the plains and lower hills. Another very massive range runs down from the watershed dividing the basins of the Dhauliganga and the Vishnuganga, the principal peak being Kamet, 25,443 feet, close to the watershed. With the exception of this group the watershed does not average more than about 18,000 feet and nothing is more startling to the traveller in the Niti and Mana Passes than to find that such snowy mountains as are visible lie to the south and not to the north of him. The hillman, whose want of reverence for things sacred is proverbial, can never overcome his awe of the great snows. Even the coolie coming suddenly in full view of the range will salute what is to him the abode of the Deity, while the more piously inclined will put his hands together and murmur a short prayer.

Minor ranges.

Tungonath.

The minor ranges throughout Garhwal are offshoots of the two great snowy groups. From the Badrinath flank of the western range a spur runs down southwards through Tungnath to the Alaknanda at Rudraprayag, separating the basin of this river from that of the Mandagini. From the Kedarnath flank of the same range a spur runs down south to Deoprayag separating the basin of the Mandagini and Alaknanda from that of the Bhagirathi. The greater part of this spur lies in Tehri Garhwal. On the other hand from the eastern or Nanda Devi group one spur (that on which

Ramni stands) runs westward from Trisul to the Alaknanda, separating the valley of the Nandakini from that of the Birehi; another (remarkable for the peak of Khamil, 13,356 feet) separates the Nandakini from the Kailganga and the Pindar, while a third separates the Pindar from the Kailganga. But the spur which more than any gives the key to the mountain system of Garhwal is the one which proceeding from Nandakot runs down the left bank of the Pindar in a south-westerly and afterwards westerly direction to the Dudatoli range, which is the most considerable feature of the mountains of central Garhwal. This ridge, it will be seen, divides the waters which find their way to the plains at Brahmdeo from those which travel to Hardwar, and a southern offshoot of it close to Badhangarhi peak divides the waters of the Ramganga from either. Dudatoli however, though geographically a continuation of this spur, is of essentially different composition. The Gwaldam range is of hard black limestone rock forming as a rule very precipitous hillsides, and weathering down to a rich clay soil. The Dudatoli rock on the other hand is a conglomerate of flints and sand, white in appearance, and forming the most gentle sloping hillsides in the whole of Garhwal while it weathers down to a light sandy soil. In Lohba *patti* the contrast is most striking. To the west of the Ramganga the soil is generally poor and sandy, to the east it is a rich agricultural clay. Excluding the snows and the spurs immediately adjoining them, Dudatoli is the most massive range in the whole of the Kumaon division. The main peak is 10,188 feet above sea level, and the fifty square miles of area surrounding it are in their lowest part 6,000 feet above sea level and are thus preserved in a compact block intact from cultivation. Spurs which preserve a mean elevation of 8,000 feet to a distance of eight or ten miles branch off on all sides. Of these the most important are one north-west to the Dhanpur range, another south-west to the Devithank and Ameli group, and a third south to the Khatli hills. In the Dhanpur range, once remarkable for its copper mines, the precipitous black rock of the Badhangarhi spur is resumed. The range runs due east and west, preserving an altitude of over 9,000 feet for six or seven miles and containing several peaks of over 9,800 feet. Thence the range is continued

Dudatoli.

Dhanpur.

eastward and southward through Khirsu, Devidat (above Pauri) and Ranigarh (Adwani), all of which peaks are over 7,000 feet while few parts of the range are less than 6,000 feet, to Byansghat, the whole thus separating the Nayar valley from the Alaknanda. The Ameli spur which is continued to their junction separates the valley of the two Nayars. The Binsar spur with the ranges continuing it forms the eastern and southern boundary of the Nayar basin as the Ranigarh formed its northern and western. The Khatli range which is joined to Dudatoli by the Binsar spur runs east and west and may be said to continue from Khamlekgarhi on the Almora border to Rikhni Khal, a low pass between Iriyakot and Painon *pattis*. The principal peak is over 8,000 feet and there are several above 7,000 feet. The ridge is continued towards the west and between Rikhni Khal and Chameta Khal (about 4,000 feet) may be called the Utain range from the principal peak which is over 6,900 feet. The ridge thence continues in a succession of peaks, among which Kalongarhi (Lansdowne) and Langurgarhi are the most important, and passes to Karaunda (Kich-ka-danda) where the ridge splits into two which enclose the Huinl valley and separate it on the one hand from the Nayar and Ganges and on the other from the minor streams flowing direct to the plains. Various more or less well-defined spurs separate these from each other and from the Ramganga.

Khatli.

Utain.

Other ridges.

Lakes.

The district contains a number of lakes, but the majority are unimportant, such as Beni Tal, Sukha Tal and Tarag Tal which are mere stagnant ponds in depressions on the ridges receiving the annual rainfall. More extensive lakes are to be found in the interior of the snowy range such as Satopant, Lokpal-ka-Kund and Deo Tal, but they are not easily accessible. Until 1893 the largest lake was Diuri Tal above Ukhimath, a very picturesque sheet of water whence a perfect view can be obtained of the Chaukhamba peaks from base to summit. In that year however the Gohna or Durmi lake was formed and it is now by far the largest not only in the district, but in the whole division. Notwithstanding the great mass of water poured down the valley in August 1894, it still measures nearly two miles long and half a mile in maximum breadth with an area of 400 acres, more than three times the size of Naini Tal.

There are several hot springs in the district. Those at Gauri-kund on the road to the temple of Kedarnath are situated above the right bank of the Mandagini river. On the 6th of October at 5 P.M., when the temperature of the air was 64° and that of the river was 52°, the temperature in one of the springs was 74° and in another 128°. The water is collected in an artificial reservoir built for the purpose of bathing, as all pilgrims are required to bathe here before going on to Kedarnath, a procedure full of physical as well as spiritual benefit. Another spring of a similar description exists at Badrinath, called the Taptakund. It runs under the temple, and is also collected in a large reservoir for bathing purposes. The temperature on May 26th at about 11 A.M. was noted at 120°F. Cold water is let into the reservoir in order to allow of the pilgrims bathing in it. There are four separate hot springs at Tapoban, two about a mile and two about one quarter of a mile from the village of that name, and all close to the Niti road. The two most distant well up into artificial reservoirs and are used as bathing-places, their temperature being 127° and 123° respectively. The other two are springs and are not used for bathing, their temperature being 99° and 109°. The water of the first two is of a dirty colour, and leaves a whitish sediment, but does not seem to have any sulphur in it, while that of the latter two is clear and somewhat aërated though tasteless. The spring of Bhauri lies near the village of Amola in pargana Ganga Salan. It has a somewhat saline taste and the stones are discoloured by reddish sediment. The elevation of this spring is between 3,500 and 4,000 feet. It rises in a small *sal* forest and has a temperature of 94°. Two other springs, considered by the natives to be warm, are known, one at Kulsari on the left bank of the Pindar river, and the other on the river Palain in *patti* Badalpur. The water is rather less cold than ordinary hill water but not even slightly hot. **Springs.**

Geologically the district exposes a complete slice or section across the Himalaya from the plains to the Tibetan watershed. On the south, the narrow sub-Himalayan zone of low forest-covered hills and shallow valleys or *duns* displays a great sequence of fresh-water deposits of upper tertiary age, aggregating 17,000 feet in thickness, and composed in ascending order of lower Siwalik or Nahan sandstones, with subordinate shales, after which come middle Siwalik **Geology.**

soft sand-rock and upper Siwalik conglomerates. In the narrower parts of this zone the Nahans alone are found. The wider parts involve the younger rock-stages and frequently give repetitions by folding and reversed faulting on a large scale. The great main boundary reversed fault (coinciding probably with the limit of deposition of these rocks) separates them sharply from the succeeding Lower Himalaya and is marked by a general rise in the hills and the cessation of the sub-Himalayan forests. The outer Himalayan zone and central axis include enormous tracts of highland country and snowy peaks composed (in their southern half) of slates and massive limestone, sometimes succeeded by bands of mesozoic limestone—tal beds—and nummulitic shales, and (in their more northern half) of schistose slates, quartz-schists and basic lava flows. The schistose slates pass into mica schists with isolated patches of gneissose granite, or massive bands as along the central axis. To the north of the central axis, the Tibetan watershed, in the neighbourhood of the Niti Pass, introduces an entirely new and vast sequence of marine strata from silurian to cretaceous, including a fine development of trias.

Minerals.

The Kumaun division has always borne a high reputation for mineral wealth—a reputation not so far justified by results. The mines have according to tradition, been worked for over 200 years; and after the British occupation the Government turned its attention to the subject. The first Commissioner was directed to send specimens of ore to the Calcutta mint for assay. The report was not favourable, but it is probable that the ores sent were not fair samples. Further inquiries were made by Captain Herbert in 1826. In 1838 Captain Drummond brought out Mr. Wilkin, a Cornish miner, and the Government granted the sum of Rs. 3,415 to be spent over "an experimental opening of such mines as might appear best suited to the object in view," which was to discover if mines worked under European superintendence would pay or not. The place selected was Pokhri in Talla Nagpur,

Copper.

The copper mines here had been worked under the Hindu rulers and the Gurkhas: tradition asserted that under the latter *régime* they had yielded an annual revenue of half a lakh of rupees. But the output had been decreasing between 1803 and 1838, in which year the revenue was only Rs. 100, and even that had to be remitted. The

sum allotted for the experiment (which lasted for two and a quarter years) was quite inadequate, no exhaustive test of the mineral wealth of the hill was possible and the venture resulted in a loss of Rs. 7,384. The Commissioner considered that "the failure of this undertaking renders it impossible for me to record an opinion in favour of fresh experiments being made" and "with regard to the copper mines of the province generally I have reluctantly come to the opinion that they do not present a fair field for the employment of capital." The test seemed inadequate to Captain Drummond, who pointed out that the small sum of money actually expended should have been deemed a necessary preliminary outlay on investigation, and not a venture on a small scale with a hope of profit. In 1845 Mr. Reckendorf visited the mines and came to the conclusion that the experiment had failed chiefly because it had been starved, but he thought the field one for private enterprise. In 1852 the mines were again opened with the same result. Besides Pokhri in Nagpur celebrated copper mines have existed at Dobri and Dhanpur on the north and south sides respectively of a high hill in Ranigadh. They are now (in 1909) being investigated by a European syndicate after a quiescence of 40 or 50 years. The ore is chiefly copper pyrites and grey or vitreous copper ore, with the red oxide and green carbonate in smaller quantities, the latter being scarce.

Iron is mined at Hat, Jainal, Chorpagna and Mokh: the metal produced at the latter place is the most highly esteemed. The industry is languishing owing to successful competition by imported iron and now supplies no more than the local demand, though in earlier days hill iron used to be exported to the plains. Even now it is said to be more lasting than its imported rival, which the average hill *lohar* or Agaria cannot work. The ore is magnetic, black, crystalline or laminated and the best kinds contain 70 per cent. of pure metal, though unskilful smelting reduces the average output to 5 *sers* of metal from a maund of ore. The Agarias or Lohars are Doms, but the best of Doms: their traditional founder is Kalia Lohar, who forged the weapons of the Pandavas. To him they offer five pieces of charcoal before starting work. Iron.

It is probable that both copper and iron exist in quantities sufficient to justify exploitation. The difficulties are those of

transport and fuel : and though Captain Drummond pointed out that copper ore could be carried from Chili to Swansea and smelted there at a profit, and instanced Russian and Swedish iron smelted entirely with charcoal, the fact remains that Himalayan mining has failed to attract capital.

Other minerals.

Lead is known to exist, but it has long since ceased to be worked. Gold is washed in the Alaknanda river and it is estimated that four annas a day can be made by an average worker ; but the matrix has not yet been discovered. Arsenic, lignite, graphite, sulphur, gypsum, soapstone, asbestos, alum and *silajit* also occur. The latter is an impure sulphate of alumina and is much prized as a panacea for all ills. It is sold as " minor forest produce " and the contractors do a great trade during the pilgrim season at the *chattis* along the road.

Building materials.

Stone good enough for ordinary building purposes is common everywhere. There are three distinct ranges of limestome hills in Garhwal; the first north of the Alaknanda in Nagpur, the second running from Lohba *patti* to the Pindar and again to the Alaknanda in *patti* Bachhansyun and the third running parallel to the plains and south of the Nayar river. The chief quarry is at Ranibagh near Srinagar. A thin dark blue state is found in Lohba. Lime masonry costs Rs. 14 per 100 cubic feet; iron roofs (with a lining of planks) about Rs. 40 per 100 square feet. Dry walling varies from Rs. 1-4-0 to Rs. 2 a hundred cubic feet. Bricks are not made in Garhwal.

Forests, early history.

A broad belt of forest extending from the Ramganga to the Ganges clothes the outer ranges of the Himalayas and the *duns* lying at the foot of the range. Forests have from time immemorial been considered the property of the sovereign ; but owing to the conformation of the country and the absence of communications those along the foot of the hills alone possessed any fiscal value. The most simple mode of realizing the revenue was by the exaction of an excise on produce exported. This excise was collected, with the transit duties on trade, at one of a chain of *chaukis* established for the purpose at the foot of the hills. When the transit duties were abolished, Mr. Traill the Commissioner was authorized to farm out the forest dues or *káth-bans*, and *kath* mahals, as they were called form their principal items *káth*

(timber), *bans* (bamboo) and *kath* (catechu) to the *zamindar* of the pargana in which they were collected. The resultant revenue increased from Rs. 566 in 1818 to Rs. 1,405 in 1828. In 1849 the collection of the forest and pasturage dues from the Kotri Dun and from Udepur was handed over to the Superintendent of Dehra Dun and to the Collector of Bijnor. In 1858 the forests came under Major Ramsay the Commissioner, who was also the first Conservator. He at once stopped the contract system and gradually induced cultivators to take up land south of the submontane road, leaving the valuable forest to the north untouched. The management of the forests was transferred to the forest department in 1868. In 1879 they were declared reserved forests according to section 34 of the Indian Forest Act 1878 as far as Garhwal is concerned, and a schedule was also given of all village lands situated within forest limits; but although forests open to rights were marked on the maps in 1879 their boundaries do not appear to have been notified. The whole of the Garhwal forest division from the Ramganga to the Ganges was divided into five blocks. Of these, three, the Saneh, Laldhang and Khara forests, were included in the Ganges division formed in December 1879. In November 1880 the Chandi block (in the Bijnor district) was taken over by the forest department from the Superintendent of the Roorkee workshops and attached to the Ganges division. On April 1st 1885 the Kotri Dun east of the Khoh river was transferred from the Garhwal division.

Ganges division.

The forests included in the Ganges division lie between the Ramganga and Palain rivers on the east and the Ganges on the west, and are bounded on the north by the Ganga Salan and Talla Salan parganas, and on the south by the submontane road or *kandi sarak* as it is locally known. The forest area is 224,104 acres or about 350 square miles. Sal is found irregularly distributed over the whole of this area. It is dominant on nearly all slopes with a northerly aspect in a generally open mixed forest, and it thrives best on the light loamy soil usually found in alluvial lands. Haldu is not abundant, but occurs on most slopes with a southerly aspect. *Jamun* of a good quality is found in most of the *sots; tun* is not common. Subordinate species are *sain, bakli, dhaura, gosam, shisham, khair, sandan, tendu, chir* pine, and *kokat*; the last

term includes all miscellaneous trees of minor importance. The best *sal* is found in the Kotri and Palain ranges; but nearly all the best trees had been exploited in the heavy fellings before the establishment of conservation. Bamboos are very plentiful and very valuable. Their upper limit appears to be about 3,500 feet, but they are most abundant along the foot of the hills and in hollows, and at the bottom of slopes in the hills themselves. Wild elephants are very destructive, eating, breaking or uprooting them in large numbers especially on the level ground, *chaurs* and plateaux. The bamboos were found by Mr. Hearle* to have been much over-cut in all the most accessible localities. The best growth is to be found in the Kansur and Mandali blocks; these blocks are however rather remote from the markets and therefore not worked up to their full capacity.

Management.

The Ganges division is controlled by a deputy conservator of forests stationed at Lansdowne, but in the working season the office is transferred to Kotdwara. The forests are divided into seven ranges, each under the charge of a ranger or deputy ranger.

Working plans.

Working plans were drawn up by Mr. Hearle in 1887 dealing with the forests between the Khoh and the Ganges, and by Mr. Beadon Bryant in 1890 for the Palain and Kotri Dun ranges. It was not found possible to adhere to those working plans already made and in 1896 Mr. Beadon Bryant was deputed to draw up a fresh working plan for the whole division with the exception of the Lansdowne range. He accordingly divided the forests into four classes according to their fitness for exploitation The first class exists only in the Palain range. Here are found the best *sal* forests well stocked with trees of all ages in which sound mature timber is still present. These he proposed to treat on the selection method. The second class consists of forests stocked with *sal* and other species of all ages in which there is very little sound timber left. This class occurs in the Gohri, Udepur, Kotri and Sona Nadi ranges: it is to be dealt with on the " improvement " system. The third class is found on the Ganges islets. It contains some valuable young *khair* and *shisham* forests liable at any time to be swept away by floods. *Shisham* is the only species that will yield any valuable timber: these forests

*Deputy Conservator in 1887.

are to be coppiced on a twenty years' rotation, standards being left for reproduction. In the fourth class are included all forests not at present fit for felling.

By far the most valuable article of forest produce is the bamboo, from which more than half the annual forest revenue is derived. The bamboos in the extensive and accessible forests of the Gohri range are eagerly sought after: the quality of the stems is good and the Ganges river affords cheap carriage by flotation. First class *sal* timber can easily be disposed of, but the supply owing to abuse of the forests in the past is very scanty. Dry poles of all good kinds of wood, such as *sain*, *sandan*, *tun* and *jamun* are in great demand. The forests are on the whole very accessible and are connected by a network of roads with the markets in the plains below them. The main lines of export are the Ganges river and the road running from the head of the Kohtri Dun past Saneh to Najibabad, and the railway from Kotdwara to Najibabad. The chief purchasers of first class timber are the merchants of Delhi and Meerut. Saneh and Hardwar are important timber marts. Najibabad and Nagina are considerable trade centres; and at Roorkee in addition to the ordinary wants of the town the government workshops require large quantities of fuel and charcoal. The produce.

The hillmen are the only people who possess any rights in these forests. These rights comprise free grazing for a limited number of cattle, cutting grass for home consumption and in a few cases for sale, collecting dry or fallen wood for fuel, wood for agricultural implements with the sanction of the forest officers, timber bamboos, and *bhabar* grass. Rights.

The reserved forests in the south-eastern corner of the district situated to the east of the Palain and Ramganga rivers are included in the Garhwal forest division the headquarters of which are at Naini Tal, though the office is removed to Ramnagar for the working season, November to April inclusive. The area included in the Garhwal forest division, *i.e.* 134,354 acres, constitutes four ranges. The Adnala and Mandal ranges comprise the forests situated between the Palain and Ramganga rivers, while the South Patli Dun and Dhara ranges lie south of the Ramganga. The altitude varies from 900 to 3,900 feet. These forests were notified Garhwal division.

as reserved in notifications no. 162F of 24th February 1879, no. 100 of 10th July 1886 and no. 4 of 3rd April 1890.

Trees. The crop consists principally of *sal* in every stage of growth, mixed with *sain* and miscellaneous species. In many parts too bamboos occur. Along the banks of the Ramganga and in many of the smaller ravines *shisham* grows plentifully. In the Ramganga valley and scattered here and there among the tree growth are large grass *chaurs* that are burnt annually for grazing. When first these forests came under the management of the state in about 1840, areas were leased out to contractors who cut and removed what they liked. This in conjunction with the annual fires that swept over them did infinite damage to the stock. Later on, about 1854, the forests were worked by the Government. In 1858 contractors were allowed to cut what they liked, paying for the timber at specified rates as they took it from the forests, two lines of *chaukis* being kept up to collect and check the revenue. In 1865 again the forest department took over the management From this time contractors were restricted in their fellings, trees being marked for them, previous to felling, under a rough scheme of working. It was not until 1896 that a working plan was drawn up by Mr. F. Beadon Bryant, then deputy conservator of forests. This working plan prescribes the order of fellings, climber cuttings and girdlings. Under it trees marked for felling are all carefully recorded and put up for sale by auction, as is also the other produce of the forests. The double line of *chaukis* was at the same time abolished. Protection from fire seems to have been begun in a rough, unsystematic manner in or about 1865, but little success resulted until 1875. Since that date the forests have on the whole been effectively protected. The annual cost of protection from fire is now about Rs. 4,600. The main produce exported consists of *sal* timber and bamboos. The former in its green state is sawn up inside the forests and taken to Delhi, Meerut, Moradabad, and Cawnpore, while dry sal timber supplies a purely local demand, the principal markets being Jaspur and Barhapura. Timber other than *sal* is exported to a small extent only, the principal species being *sandan* and *sain*. Bamboos are for the most part floated down the Ramganga to Bareilly and Cawnpore. Minor forest produce is sold locally. The revenue and expenditure

of these forests during the ten years 1898-99 to 1907-08 averaged Rs. 75,346 and Rs. 31,874 respectively.

Rights were enquired into during the years 1893 to 1895 and were finally settled and recorded in 1896. The rights admitted are on a very liberal scale, especially the grazing rights ; the result being that although parts of the forests are very heavily grazed the revenue under this head is small and in such parts the crop is very open and regeneration almost *nil*. **Rights.**

The forests are well served with roads, many of which are kept open all the year round in the interest of villagers and travellers. The nearest railway stations are Ramnagar, Dhampur and Nagina, and these are the stations chiefly used by purchasers. The distances of these from the forests are 15 to 25 miles. From the whole of the forests there are fairly good *kachcha* roads to these stations. Many rest-houses have been put up during the last 25 years for the convenience of officials travelling on duty. The question of suitably housing the subordinate establishment has received much attention, and there are now good quarters for nearly all subordinates. The average annual expenditure on roads and buildings in these forests is Rs. 4,500 and Rs. 2,400 respectively.

The four ranges are each in charge of a forest-ranger or deputy ranger, with foresters and forest guards under him. Each range is divided into beats which are patrolled by forest guards. There are six beats in each of the Adnala and Mandal ranges and four each in south Patli Dun and Dhara. The working season is from the 15th November to the 15th May, and the forests are quite deserted from the break of the monsoon. The climate is unhealthy, fever and pneumonia being very prevalent and very few officials have up to date lived to enjoy a pension.

The district forests stand on a very different footing. In the departmental forests the main object of management is commercial exploitation. But the Government has avowed the policy of administering the district forests entirely for the benefit of the people. They are therefore left under the control of the Deputy Commissioner and it is an axiom that no profit is to be made out of them. The income is to regulate the outlay over forest management and improvement. Until a comparatively recent **District forests.**

date the forests had been somewhat neglected, and it was at last apparent that certain tracts were seriously prejudiced by the absence of adjacent forests from which they could procure wood for building, agricultural implements, and fuel. Indiscriminate fellings in the past also had resulted in denudation of hillsides and consequent landslips. And while at present the not very rich soil of the district is maintained at a culturable standard by heavy manuring, there was a considerable risk that cowdung might in parts have to be diverted from its proper function and used as a fuel. The problem of building houses without timber does not appear to have any solution, while meteorologists have repeatedly pointed out the dangers of injudicious clearings of forests. The district is very largely dependent upon agriculture, for the proper conduct of which in the hills forests are in every way indispensable: it will be seen that forest administration is perhaps the most important charge upon the district officer's energies.

The people are on the whole not ill disposed towards protection. Few of the forests are closed to grazing and they can get all they want in the way of timber for the trouble of asking for it. Their chief offence from the silvicultural point of view is their habit of extending cultivation into the forest. They are apt to be extravagant too in their demands for trees on the principle that nothing in lost by asking; and are inclined to cut down a dozen *chir* poles for timber which might have been extracted from one large tree. In fact the substitution of the saw for the axe would vastly reduce the annual consumption of house-timber.

History. Up to 1886 the forests were managed somewhat informally, the executive order of the Deputy Commissioner being deemed sufficient to impose the necessary restraints on the abuse of the forests by the people. In that year however the Commissioner sanctioned the appointment of a ranger and four patrols: in 1887 a second ranger and three more patrols were added. From 1888 to 1891 a superintendent on Rs. 75 a month was put in charge of the whole establishment: but in 1892 he was replaced by a ranger lent by the forest department. In 1896 a duly constituted establishment was appointed consisting of three foresters on Rs. 15, eleven forest guards on Rs. 6, four bungalow *chaukidars*, an English clerk, a *muharrir* and a *chaprasi*. This staff was found to

be too small to supervise adequately all forest operations over the whole of an immense district like Garhwal, and in 1903* it was concentrated on certain selected forests. The scheme now adopted divided the existing forests into three classes. Class I comprised forests which had practically disappeared and were not worth saving; class II consisted of forests of such vast extent as not to require protection. Class III or "closed" forests included all those areas which required to be closed for protection or reproduction. The classification was complete by 1906. The open forests were made over to the *padhans* and *patwaris* for management, while the forest staff devoted itself entirely to the closed forests. These blocks are divided into 31 forest guard's beat, each guard living in his beat and patrolling it, supervising the exercise of rights and extraction of produce and preventing or reporting offences: the foresters, nine in number, supervise the forest guards and do the more important inquiries of their circles. The district is divided into three ranges, the northern, the central and the southern, under the general charge of trained deputy rangers, while the technical and professional work of the whole district is supervised and directed by an extra assistant conservator (lent by the forest department) under the control of the Deputy Commissioner.

Policy.

The object of the district forest administration is the maintenance of existing forests with, where necessary, reboisement of bare tracts, so that in the result there may be wood enough for all local needs in the way of fuel, agricultural implements, and timber: the protection of pasture land against the encroachments of cultivators: the prevention of soil denudation arising from forest destruction; the protection of the sources of rivers not rising from the snows; and the scientific exploitation of the noble forests in the north of the district which form the chief source of the income necessary for the accomplishment of these objects. Local circumstances vary. The southern range consists chiefly of hot low tracts running back from the reserved forest belt. These tracts are unhealthy and have a fairly rich soil: population is scanty and existing cultivation generally sufficient: so that there has not been in the past that reckless extension of cultivation into the forests which has characterised other portions of the district. The supply of wood

* *Vide* G. O. no. 263/XIV—264B, of 25th August 1903.

for all purposes is generally adequate, while moderate extensions of cultivation are not to be discouraged. The exception is to be found in Udepur, where new plantations will probably be found necessary. Further north lie the Chaundkot and Barahsyun parganas which form the thickly populated and intensely cultivated central belt of the district. Here pasture for cattle and wood for fuel and building are much in defect. Except for the fine Adwani block there is little or no forest. It is necessary therefore to control extensions of cultivation which may damage existing or potential forests and curtail pasture land, already not abundant. South of Chaundkot and Barahsyun is the Nayar river with its steep shaly banks, covered for the most part with a prolific bush jungle, which supplies the neighbouring villagers with fuel and to a certain extent with timber. The pressure of the population here finds its outlet in what is called *katil*. This is an intermittent form of cultivation which consists in roughly clearing the jungle and sowing the land so exposed, without terracing or otherwise protecting it. It is abandoned after a crop or two has been taken off it, and the pioneer then repeats the operation on another block. The result is that a steep hillside has been stripped of its protection against weather: landslips destroy both the hillsides themselves and also any fruitful riverain land that may be at their foot, while much useful fuel has been wasted. This class of cultivation is now prohibited. In the central range the most important task before the Forest department is thus re-afforestation and jealous protection of existing forests. Within the last two or three years a number of bare ridges, Igasar, Chamnaun, Shimar, Mundandhar, Belandhar and Maldadhar, have been enclosed and sown with pine and oak or planted with cypress or deodar.

Central range.

Northern range.

The north centre and north of the district are generally well wooded. The only exception is found in the south of Talla Nagpur, where a new plantation has recently been made. The vast forests of the Dudatoli range in Chandpur extend over hundreds of square miles. Many of the ridges have an elevation of over 7,000 feet: and are therefore well outside the limit of cultivation, against which they need no protection. These forests afford summer pasturage to thousands of cattle, for grass never fails even in the driest of years. Their presence offers an obstacle to excessive

surface drainage: much moisture is absorbed into the land from which it is drained slowly by the various rivulets which unite to form the Ramganga river and the two Nayars. In fact, when once the floods of the monsoon have passed down these rivers, they maintain an astonishingly stable level throughout the rest of the year. Further north are the noble pine forests of the Pindar and Mandagini valleys, whence accrues most of the income necessary for the financing of the department. These forests contain millions of mature pine trees, while the rivers on whose banks they stand provide easy carriage by flotation to the timber marts of the plains. Population is very scarce, and, provided that these forests are safeguarded, cultivation is to be encouraged. Briefly, the department is chiefly concerned with maintaining the *status quo* in the southern range, with diligent protection and renewal of existing over-taxed forests and re-afforestation of bare ridges in the central range, and with exploitation in the northern range.*

Revenue. The annual expenditure is at present about Rs. 25,000 or Rs. 30,000. To meet this the sources of income are minor produce (which includes horns and hides and *silajit*); this brings in about Rs. 4,500. Grazing dues to the amount of about Rs. 1,750 are levied on professional graziers who visit Dudatoli in the summer. Sales to the public works department and other minor items bring the total of more or less fixed income up to about Rs. 5,500. The necessary balance is made up by sales of trees from the northern reserves.

Trees. The chief tree of the southern forest is the *sal* (*shorea robusta*). Although this tree is found up to 4,000 feet it is seldom met with north of the Khatli-Karaundu range, and north of the Nayar it is practically non-existent. The natives dislike this tree near their cultivation, alleging that it introduces white ants. Within the hills it does not reach the height to which it grows in the plains, and it is chiefly used for house-building. The *haldu* (*adina cordifolia*), the *dhauri* (*lagerstraemia parviflora*), the *tun* (*cedrela toona*), the *sain* or *asin* (*terminalia tomentosa*) and *kharik* are found up to the same elevation: the *tun* and the *kharik* do not often occur in forests. An extremely useful tree, the *bhyunl*, grows in the valleys and lower hill slopes and is carefully protected

*From a report by Mr. Stowell, C.S.

by the cultivator, for its leaves afford a very excellent fodder for cattle; while its shoots yield a fibre from which are made the ropes used by the inhabitants of the lower hills. It is usually grown on the walls between fields. Up to about three thousand feet well known trees of the plains—the mango, *pipal*, banyan and *shisham*—are very common.

The *chir.* Higher the *chir* (*pinus longifolia*) is the principal component of the forest up to about 6,000 feet: its limits are between 1,600 feet (where not unduly exposed to the sun) and 7,200 (on a south aspect.) It is usually found alone, for it appears to have the power of driving out all other vegetation from the tract it occupies. The *chir* is the staple building timber in the hills, while vast quantities of trees are exported in the shape of sleepers. Torches are cut out of the living wood. Trees are tapped for resin occasionally, but so far turpentine has not been manufactured in the district. The seeds are eaten.

Oaks. The *banj* oak (*quercus incana*) though it flourishes from about 4,000 feet upwards, constitutes the bulk of the forest between 6,000 feet and 8,000 feet beyond the limit of the *chir* pine. The tree usually attains no great height. The wood is hard and gnarled. It is used for agricultural implements and fuel. The Garhwali has a prejudice against its employment in house-building. The tree is generally common (within its *habitat*) throughout the district. Associated with it is usually found the tree rhododendron, useless except for fuel and rough house-timber, and in damper situations the *ringal* bamboo. These flourish up to about ten thousand feet. The *ringals* are woven into mats and baskets by the Chandpur people, and also exported to the plains to be made into pens and pipe-stems. They occur in clumps rising to about 15 feet or 20 feet at the apex and containing as many as one hundred shoots. Above 8,000 feet the *banj* gives place to the hardier oaks, the *tilonj* (*quercus dilatata*) and the *karshu* (*quercus simicarpifolia.*) The wood of these oaks resembles that of the *banj* and is used for the same purposes. Up to 10,000 feet are also found the horse chestnut (*pangar*) and the sycamore. The wood of the latter is sometimes turned on a rough lathe, worked by water power, into drinking vessels.

Conifers. The Himalayan silver fir and the spruce—both known as *ragha* or *rausala*—occur between 7,500 feet and 11,000 feet and are found in vast numbers on the summit of Dudatoli and near Ramni. They are tall trees not unlike the cypress at first glance; the branches are short and close. They attain a height of 120 feet and a girth of 15 feet. The wood is considered to be equal to that of the chir, but owing to its remote situation is seldom used except for shingle roofing. The yew (*thaner*) and cypress are found at the same elevation. They are too well known to require description. The cypress sometimes attains an enormous size and one measured by Major Garstin at Wan had a girth of 38 feet. The wood is hard, tough and durable, but too heavy for flotation by itself. With these conifers is found the *chima* or *chimola*—the variegated bush rhododendron with flowers of all colours—pink, purple, blue, pure white—and above all is the birch which grows up to a height of about 12,000 feet. In the Niti Pass the *pinus excelsa* or blue pine, here known as the *ch ila*, a tree very similar to the *chir* and commonly so called except by the Bhotias, is found growing alongside the birch at an elevation of over 11,000 feet. This tree has its leaves in groups of fives therein differing from the *chir* whose leaves are in threes.

Other trees. The deodar is not a characteristic forest tree, though along the western Dhauli between Kark and Malari in the Niti valley and near Pandukeswar there are fairly large natural forests of deodar, while a very fine grove surrounds the Binsar temple. The wood of the deodar has a high reputation for its durability and power of resisting insects and dry rot. It is in great demand for the doors and roofs of temples, being, as its name suggests, a sacred tree. A large number of deodar sleepers has been exported from Pandukeswar. The willow and the alder are common everywhere near water or in damp situations.

Fruit trees. Garhwal is particularly well provided with fruit trees. Up to about 3,000 feet the mango and *jamun* of the plains are very common. Above them are wild apples, pears, medlars, cherries, apricots, plums and peaches. Oranges and limes (of excellent flavour if coarse texture), plantains, and pomegranates grow everywhere. The walnut is found both wild and cultivated. In Pauri and its neighbourhood a few fine grafted English fruit trees

grow to perfection. A nursery at Gabini was also started by Mr. J. S. Campbell for the distribution of English fruit grafts, but the venture failed. The medlar forms an excellent stock for pear grafts. Other wild fruits much appreciated by the natives are the cornel (*bamaura*) which bears a red-coloured sub-acid pulpy fruit, two kinds of figs (the *beru* and *timli*), the *kaphal*, the mulberry, the *kilmora* or *kingora* (a species of barberry), the rasp and the blackberry. Nearer the snows occur black, red and white currants, and gooseberries. Here also is found the hazel, the nut of which is commonly known as the *Bhotia badam*.

Fauna.

The elephant is found wild in the Garhwal Bhabar; it enjoys the protection of the Government and is, unless proclaimed a rogue, never shot. Formerly considerable herds of elephants used to range the Bhabar forests, particularly about the Patli Dun. Regular visits of the Balrampur *kheddah* however thinned out their numbers so thoroughly that there are now perhaps hardly a dozen tuskers and a still smaller number of females and calves living in the district. The *kheddah* has been discontinued since 1903. The tiger is plentiful in the Bhabar and is found also in the interior up to about 10,000 feet. The Dudatoli forest usually harbour at least one pair. The panther is common throughout the district and sometimes is extremely troublesome. A single panther, blood-thirsty rather than hungry, has been known to exterminate the whole very valuable herd of pack goats belonging to an itinerant Bhotia. The panther is frequently trapped. The snow leopard occurs rarely in upper Garhwal. The hyæna is scarce, and is here called the *charak*. The rare specimens bagged are by the native attributed to the mating of a tiger with a bear. The common sloth bear of the plains (*ursus labiatus*) is found in the Bhabar and lower hills. It does not hibernate. The black Himalayan bear (*ursus tibetanus* or *torquatus*) is very common, occuring down to about 3,000 feet, while in the cold weather he is found even in the Bhabar. He is a good tree climber and frequently plunders wild bees' nests. His favourite food is however the millet known as *mandua*: though at times he will in default of more savoury provender feed on acorns and other jungle fruit, and is even occasionally carnivorous. His sight and hearing are good and he is very savage; a large number of people are mauled by bears every

year in the district. In winter he hibernates, especially in the lower hills, and is in fact rarely seen except in the rains. He not infrequently kills cattle, sheep and goats. The red bear (*ursus isabellinus*) has never been known in British Garhwal though it exists in Almora and Tehri Garhwal. Jungle cats of many kinds are common, and in the hands of the Garhwali are often made to personate panther cubs for which a reward is given. The wolf is rarely if ever found in the hills. Wild dogs are not uncommon in the forests of the Pindar valley, Dudatoli and a few other places. The jackal is ubiquitous. The mountain fox is a fine beast with good thick fur. Other interesting animals are the pine marten (*chutraila*) and the otter (*od*) which cause much destruction among small game and fish respectively. The fur of the latter is made by the Bhotias and others into caps, while a bandage of otter fur round the throat is considered effectual in cases of goitre. The monkeys of Garhwal are the Himalayan *langur* and the ordinary erubescent monkey so common in the plains.

Cervidae.

Among the deer tribe the *sambar* is the most widely distributed. It is found in the Bhabar, and in the hills, where it is called *jarao*, up to 10,000 feet. The hill *sambar* is a more massive beast than his plains congener and carries very heavy horns. He is however not easily found as his home is in the middle of dense forests where stalking and beating are alike difficult. The *chital* or spotted deer is the commonest of all its tribe, found in the submontane forests and occurring in herds of sometimes as many as sixty or eighty. It is never found in the hills. The swamp deer or *gon* and the hog deer or *parha* are occasionally found by river banks in the Garhwal Bhabar: the former is now almost extinct. The barking deer (*kakar*) is a pretty little beast about three feet high, bright chestnut in colour with forked horns rising from long pedicles. It derives its name from its cry, which is like the bark of a dog and is usually heard in the morning and evening. The upper jaw of the male is armed with sharp canine teeth with which it can inflict severe wounds. The musk deer (*kastura*) is seldom found below 8,000 feet. The hair is coarse and very brittle and the hind legs are longer than the fore legs. Both sexes are destitute of horns, but the males have long slender tusks in the

upper jaw, sometimes three inches long. The musk pod is found in an abdominal gland.

Other wild animals.

The *gural* or Himalayan chamois is found up to about 11,000 feet; it delights in steep slopes not too thickly covered with pine and is usually found in parties of three or four. The average horn measurement is about six inches. The *sarao* is somewhat larger than the *gural* and a strange uncouth beast. It is very shy and affects dense jungle clothing precipitous rocks. Its great accomplishment is the ease with which it can gallop down hill. The *thar* is found in the most precipitous parts of the Himalayas, between 7,000 and 12,000 feet, according to the season. It is a handsome beast carrying (in the case of the males) horns 13 or 14 inches long. A smaller animal is found at lower elevations called the *khar thar*; its horns are not so fine, but otherwise it is identical with the *thar*. The *barhal* is found in the Niti Pass and elsewhere between 10,000 and 16,000 feet. It is a wild sheep living on bare grassy slopes. The wild pig is found throughout the hills up to 10,000 feet, chiefly in the oak forests.

Avifauna.

Garhwal is very rich in bird life, and the European soon recognizes species allied to those well known to him at home. Birds of prey, eagles, hawks, falcons and vultures are very common. So are thrushes, water ouzels, yellow and pied wagtails, swallows, swifts, kingfishers, woodpeckers, cuckoos, tree creepers, shrikes, orioles, robins, redstarts and warblers. Among game birds the *lungi* pheasant is found at about 12,000 feet, the brilliant *monal* pheasant is found from 8,000 to 12,000 feet: the *koklas* or *pokras* from 10,000 to 6,000: the rather uncommon *chir* from 5,000 to 10,000. The commonest of all is the *kalij*, which occurs up to about 6,000 feet. Among partridges the well known *chakor* is very common: and the *peora* is found occasionally in the denser forests. The raucous note of the black partridge is often heard. The woodcock is rare. In the Bhabar and lower hills peafowl and jungle fowl are extremely plentiful. Ducks occasionally rest during their migration on the rivers and lakes. In the extreme north the Himalayan snow cock is found on or about the snow line. Among pigeons the blue rock and the wood pigeon are common. Vast flocks of snow pigeons are sometimes seen in the

higher ranges. The ordinary birds of the plains, the partridge, quail and suipe are to be found in the Bhabar.

Ten species of lizards are found in Garhwal and are frequently to be seen on rocks basking in the sun. Frogs and toads are common. Snakes are somewhat rare, but most of all the species occurring in the plains are found. Atkinson mentions 15 non-venomous and eight venomous snakes. The python has been found as far up as the slopes below Tungnath. Reptiles.

Fish abound in all streams and are eaten by almost all classes, forming an important accessory to the ordinary food stocks. The commonest are the *mahsir*, *kalabans*, *pharkatu* and *chilwa*. They are angled for in the Alaknanda and Pindar, and caught by means of seine and casting nets, basket traps and weirs, or by diverting the stream in the case of smaller rivers. Rights to take fish by means of a weir are usually conveyed by the settlement agreements, all rivers being government property. Another method is the *raksha* (which might plausibly be translated "demon"). Two men sit on commanding rocks on opposite sides of a river, holding the ends of a stout cord armed with large barbed hooks at intervals of three or four inches. The cord is allowed to sink to the bottom of the rivers until a fish is seen to pass over it when a sharp jerk often transfixes it. More than are captured escape injured. Pools are poisoned with vegetable drugs to which vast quantities of fish succumb, not only in the pool itself, but in reaches miles below it. Fish are also occasionally destroyed by means of explosives. The Nayar alone of the larger Garhwal rivers is not snowfed and is therefore the sole spawning ground in the district. The fish run up from April to July, and but few are allowed to return, the majority falling victims to the various poaching dodges described. It is probable that it will soon be necessary to protect this most important article of food from senseless destruction: at present the law forbids poisoning and the use of explosives, while the Deputy Commissioner is able, by refusing to grant trees from the District forests, to prevent the erection of unauthorized weirs. Fish.

The hill cattle are usually small in size, active, and sure-footed. Those bred for export in Chaundkot pargana are larger and are much appreciated in the plains. The cows are wretched milkers producing usually not more than a seer of milk a day. Cattle

The cattle are usually kept at night in the *goth* under the dwelling-house or in separate cowsheds. They are littered with oak leaves and at the end of the year or possibly more often the shed is cleared out and its contents taken to the fields. Fodder consists chiefly of grass carried in from the more precipitous hillsides by the women, *bhyunl* leaves or straw. Salt is rarely given. The cattle graze among the stubble of harvested fields, in the forests, or in village pastures. Fodder is seldom preserved except in the north, where meadow land is divided among the *hissedars*, each cutting and storing his own, or, if he prefers, grazing it. But hillsides that are too steep for safe grazing act as a natural reserve. Surplus straw is stacked upon trees near the homestead and consumed as required. In the summer the villagers of the neighbourhood drive their cattle up to the great oak forests on the higher hills: there they make a more or less permanent cattle station, not leaving it until the rains have well set in. Dudatoli, as already mentioned, is a famous grazing resort for cattle. In the extreme north the grassy expanses between the upper limit of the forest and the region of perpetual snow known as *bugyal* or *payar* are the summer grazing-grounds of the whole body of cattle belonging to the villages in the vicinity. Celebrated *payars* are Baidani near Wan and Badrinath. In Dasjyuli and Malli Dasoli the cattle immediately after the rains have set in are driven up to the higher hills which ascend to about 10,000 feet, while the grass round the village is carefully preserved. In October some of this is cut and stored for the winter and in the middle of November, when snow storms are liable to become dangerous on the upper hills, the cattle are turned loose to graze in the preserves near the village. Buffaloes are kept for milch purposes: they do not appear to find the hills uncongenial.

The yak.

The yak is occasionally in the extreme north tamed and reduced to domestic servitude. But it cannot safely be brought much lower than ten thousand feet, and hybrids are more commonly used. When the sire is a yak and the dam a hill cow the product is called jubu; when the parentage is reversed, garjo. The yak will carry two or three maunds, is docile and surefooted: and is often ridden. The wild yak is not found in British Garhwal. It is a much finer beast than its domesticated cousin, and in the

expressive words of the peasant the liver of a wild yak is a load for a tame one.

Two kinds of goats are known in the district. The indigenous goat of middle and lower Garhwal differs in no essential from the ordinary plains animal: it is bred for its meat. The long-haired sturdy Bhotia goat is usually imported from the western Himalayas, such as the Kangra valley, and to some extent also is bred in Badhan. It is used as a beast of burden. Sheep may be divided into similar classes. The pack-animals carry small saddle bags called *phancha* made of hemp backed with leather. A sheep will carry a load of about ten *sers* and a goat about twelve *sers*. **Sheep and goats.**

The trade in Bhotia ponies (which are really raised in Tibet and imported by the Bhotias) is nearly dead. They are seldom used for carrying loads, for which purpose indeed they are much too valuable. In the saddle they are excellent, and command a high price. **Ponies.**

Rinderpest, locally known as *manrog*, is not endemic in the district. It has not within recent years been the cause of serious mortality. Rinderpest and dysentery *(chhera)* are commonest in the southern subdivision, particularly in these *pattis* which border on the Bhabar. Both these diseases have however been known as far north as Paidulsyun, Gagwarsyun and Katholsyun in the centre of the district and occurred there in 1905 and 1906. Foot-and-mouth disease (*khuria*) occurs throughout the district; the Bhotias' animals are the usual vehicle of the disease. Hæmorrhagic septicæmia *(bamka)* and sheep-pox *(ataila)* are fairly common diseases in the northern pargana, where they cause much loss. There are now two veterinary assistants attached to the district; the district however is very large and with reports arriving late it is difficult to stamp out incipient disease. The people however are awake to their own interests and usually take effective measures for the segregation of infected animals. **Cattle diseas .**

As might be expected in a country which varies in height from the level of the plains of India to altitudes of over 24,000 feet, the climate is exceedingly diversified. The climatic conditions of the Bhabar at the foot of the hills approximate to those of the submontane districts, while elsewhere the climate ranges from tropical hea to severe cold. The river valleys can be said never to possess a good **Climate.**

climate, for while in the summer months the temperature rarely falls below 80°, and often exceeds 100° in the shade, in the winter they are generally shrouded in mist during the night and early forenoon. The intense damp cold thus produeed is as the day advances succeeded by considerable heat, and the resultant conditions are extremely favourable to fever. In the south of the district snow rarely falls below 5,000 feet, though in the north it sometimes falls as low as 4,000 feet. The effect of the great show ranges is twofold. Acting directly on the air in contact with them they cool it and make it sink to the valleys. At the same the currents of air from the valleys are drawn up and dynamically expanded so that if moisture is present in sufficient quantity rain is deposited. In the months of April and May showers occur nearly every day in those parts. During the cold weather the snow line descends to about 9,000 feet, in the summer it rises to about 18,000 feet. Above 7,000 feet in the south and 6,000 feet in the north (within 15 miles or so of the eternal snows) the climate is cool throughout the year.

There are three seasons in the year according to native computation—the *sitkala* or cold weather during the months *Katik*, *Mangsir*, *Pus* and *Magh* (middle of October to the middle of February); the *ruri* or hot weather comprising the months *Phagun*, *Chait*, *Baisakh* and *Jeth* (middle of February to the middle of June), and the *chaumasa* or rainy season including the months *Asarh*, *Sawan*, *Bhadon* and *Asojh* (middle of June to the middle of October). During the hot weather local thunderstorms are frequent, often accompanied by very heavy hail. In April 1899 such a storm overtook a party of villagers who were celebrating a festival on the top of a ridge and no less than seventeen of them were killed; such was the force and weight of the stones.

Rainfall. The observed annual rainfall of Garhwal for the last ten years averages from 35 inches at Srinagar to 68·88 at Kotdwara. It is impossible to give any figure as the average of the whole district, because the rainfall received in any given place appears to depend so largely on its surroundings. Generally speaking the maximum falls occur at the two points where a general rise in elevation takes place, namely, the foot of the hills and the foot of

the snows. In both places the average rainfall may be taken at sixty to seventy inches. The actual figures for Kotdwara are 68·88 inches and at Ukhimath, which is some distance from the foot of the snows, the rainfall is 61·37 inches. At points between these two, there is no great and general rise in elevation; the hills do not considerably increase in height as the traveller penetrates further into the interior, but the country is by no means a plain. The principle in this portion of the district appears to be that, so far as the monsoon rains at any rate are concerned, in the vicinity of high hills the rainfall is heavy, while at a distance from them the rainfall is light. Thus at Srinagar, where there are no high hills within five or six miles, the average rainfall is about 35 inches, while at Karanprayag, a place of much the same altitude, at the bottom of a deep gorge shut in on every side by high hills, the rainfall is about 50 inches. At Pauri, situated at an elevation of 5,600 feet near similarly high hills, the average rainfall is also about 50 inches. In the case of places behind the range of snows the monsoon rainfall is less, while the winter rainfall is greater than in front of the snows. Besides the measured rainfall a great deal of moisture is deposited at Joshimath (6,100 feet) during the winter months in the form of snow, which cannot be measured, while at Ukhimath (4,300 feet) and Pauri (5,600 feet) very little snow falls. Joshimath is, however, at the foot of a gorge leading up into the heart of the snowy range and so gets a larger monsoon rainfall than other places behind the snows. At Niti for instance the rainfall from July to September has been observed in one year as 5·5 inches, while in winter the precipitation is so heavy that the whole valley is blocked with snow.

According to the native opinion the summer rain comes from the plains, while the winter rain comes from the hills. Perhaps this is to some extent borne out by the fact that the winter rainfall varies inversely as the distance from the snows. Thus the rainfall at Ukhimath is greater than at Karanprayag; at Karanprayag greater than at Srinagar; and at Srinagar greater than at Kotdwara.

The driest month in the year is November, when the rainfall averages less than half an inch; December is the next driest with a rainfall of from half to three-quarters of an inch on the average, though in a wet season, two, three and four inches are received.

After these the driest month is April, when the rainfall averages an inch and rarely exceeds two. The rains usually break earlier than in the plains, heavy showers, apparently of local origin, accompanied by northerly and westerly winds, frequently occurring about the same time that the monsoon reaches Bombay. The scouring action of these early showers on the dried up and pulverous soil is very great, and the damage done by erosion, in spite of the comparative smallness of the fall, is usually much greater than at any other time of the year. A long break during the rains is frequently fatal to the crops, as owing to the rapid slope of the hills the water soon drains off, and in a few days the ground is dry and hard, while a fortnight's fine weather renders it almost as dusty as in the middle of the hot weather.

Rain-gauge stations.

The variation of the rainfall throughout the district due to topographical consideration has already been explained. Of the rain-guage stations Kotdwara lies at the foot of the hills, and Lansdowne at the centre of the outer range : they measure the first heavy burst of the monsoon. For the centre of the district are Bironkhal and Pauri, both at an altitude of about 5,600 feet, and Srinagar down in the Ganges valley. Other stations are at Ukhimath and Chamoli at the foot of the snows, Joshimath beyond the first snowy range and Karanprayag, the junction of the Pindar and Alaknanda rivers in the north centre of district. A rain-gauge for the valley of the Nayar seems desirable.

CHAPTER II.

AGRICULTURE AND COMMERCE.

Cultivation.

As already remarked, Garhwal contains little or no level ground. The slope of the hills is usually too steep for cultivation without terracing. This is done by building up stones into a wall at the lower part of the slope and excavating the upper part until the whole becomes approximately level. As, however, the soil is very thin on most hillsides the effect of carrying out the whole of this operation at once would be to bury the soil under stones. Usually a small wall is built up and a small excavation made during the first year, the operation being completed in the course of time by weather, tilth and diluvion from higher fields. Unterraced cultivation is called *katil*: as already described this consists in burning scrub jungle on steep hills and sowing the land so cleared. It is at best a slovenly unthriftful form of cultivation. The village site is usually about half way up the ridge on which it stands and the cultivation is below and above it, the best being below.

Soils.

Agriculture depends upon three variable factors, the composition of the soil, the position of the field, that is to say its height above sea level and its aspect, and the presence or absence of irrigation. Soils, if not alluvial, depend upon the character of the rocks of the sub-soil. The Painon and Dadamandi valleys afford examples of good alluvial soil. In the south of the district the rock formation is chiefly micaceous which weathers down to a fine sand. In Bungi, Gwaldam and other places the foundation is hard limestone rock and the soil which clothes it is a rich clay. The usual limit of cultivation is about 6,500 feet. *Chuwa* (*amaranthus paniculatus*) will grow up to about 8,000 and wheat can exist up to 9,000 feet. A field on the shady side of a hill, especially if it is bordered by forest, retains moisture better than if it has a south aspect, and the soil is usually thicker and richer.

Irrigation.

The chief differentiating factor is however irrigation; and from this standpoint the Garhwali recognizes a triple classification of land into irrigated, intermittently irrigated and unirrigated,

Water is brought into the fields from moderately small rivulets by means of channels called *guls*, cut along the contour line of the hill. The length of the *gul* varies according to the height of the land to be irrigated above the bottom of the valley, and the fall of the stream. The head-works consist of a small temporary dam laid across the stream, by which the water is directed into the *gul*. As the channel of the stream is scoured deeper and deeper by the annual rains it becomes necessary to raise the dam, and finally to abandon it and make new head-works higher up. Fields which enjoy a perennial supply of water sufficient to flood them to a depth of two or three inches are called *sera* : in these rice can be sown in April. A second class of land (also called *sera*) is of the same description, but the water is less plentiful and is therefore concentrated on a nursery from which the rice is transplanted in June. Land, often not well levelled, which cannot be flooded but which can be irrigated occasionally from *guls* and is not suitable for rice, is called *panchar*. Unirrigated land is called *ukhar*.

Manure. All classes of land are of course vastly improved by manuring, but in practice the *seras* are not manured : the silt brought down by the *guls* is considered sufficient to keep them up to the standard. The manure is generally speaking old cowshed litter or leaf mould. In *katil* the shrubs are burnt and their ashes spread over the land. Manure is usually applied to the ground immediately before the seed is sown. It is then ploughed in with the seed. Gahat (*dolichus biflorus*) and ugal (*fagopyrum esculentum*) are usually not manured at all. Cattle are in some places penned in the fields. during the hot weather: this simplifies the operation of manuring.

Methods of cultition. "To prepare the ground for seed it is first of all ploughed once in the case of coarse *kharif* crops, such as *jhangora* and *mandua*, and twice in the case of others. In the case of rice, and sometimes wheat, the clods are broken up after each ploughing by an instrument like a mallet with a long handle, known as a *dilara*. The ground is also smoothed over by an instrument like a harrow without teeth known as the *jol*. The seed is then sown by a skilful man, and the ground is ploughed a second or third time as the case may be. The *jol* is then finally taken over the field again, this time very carefully, to leave it quite even. When the *kharif*

crops have reached the height of a few inches from the ground the harrow is applied. In the case of *mandua*, *jhangora* and the coarser crops the harrow is applied a second time; in the case of rice only once. Then until the crop begins to come into ear it is regularly weeded with the hoe. The rabi crop is neither harrowed nor weeded, except in the case of heavy rain occurring in a clay soil after the grain has germinated, when the land is harrowed sometimes to let up the shoots. The crop is cut with a sickle, rice being cut off close to the root; while in the case of *jhangora* (*panicum frumentaceum* or *crus galli*) or *mandua* the ears only are first cut; and after the stalks have dried, they are cut and stored as fodder. Wheat and barley are cut about the middle. On arrival of the sheaves at the threshing-floor the ears are chopped off for threshing, while the stalk is given to the cattle. In ordinary years what remains on the field is grazed off by cattle or even burnt. When grass is scarce, it is however carefully cut and preserved for fodder. All such straw is stacked in trees near the homestead, or in the absence of these on poles known as *taila*. Rice is not taken to the threshing-floor but the paddy is separated from the stalks on the spot. It is usually left on the field three days after being cut, and then spread in sheaves on a matting of *ringal* or of wheat straw. The grain is then pressed out by the feet.

" Threshing-floors are usually constructed on a ridge, where a good current of air may be anticipated. They are commonly paved with stone flags. The grain is trodden out by oxen in the usual way and winnowed by pouring it out of a basket held high up on to a mat below. The grain is then stored in big baskets in the upper storey of the house till required for use. Rice is husked when required for use, by pounding it in a sort of stone mortar hollowed out of the floor of the courtyard, with a stick about three inches in diameter and five feet long, narrow in the middle where it is grasped, and bound at the end with iron rings, known as a *ginjyala*. If required for sale, rice is at once husked instead of being stored as paddy.

" In irrigated land rice, instead of being dealt with as above, is usually sown in a seed bed. At the beginning of the rains after the young plants have attained a height of about six inches they are planted out in the remaining irrigated land. All the finer

kinds of rice are produced by this method, which has besides the advantage of rendering as valuable as perennially irrigated land land for which no water is available during the hot weather. About one-tenth of the area which it is intended to plant up is sufficient for a nursery. Pepper is similarly dealt with. In most of Talla Salan a similar plan is followed with regard to *mandua*. It is sown very thickly in one field, and when the plants come up they are transplanted to the adjoining fields. This operation is carried out at the beginning of the rains, but neither the nursery nor the other fields are in this case irrigated. In the rest of the district for *mandua*, and for the whole district as regards *jhangora*, all that is done in the way of transplanting is to fill up the barer parts of the field by putting in seedlings taken from the more thickly sown part, so that the crop may be even over all."—(Pauw's settlement report.)

Crop rotation.

"The value of crop rotation in retarding the exhaustion of the soil, is a fact so familiar to agriculture that, as might have been supposed, it has not been overlooked by the hillman, whose methods are the result of many centuries of experience. In any land from which two harvests are gathered in the year, some sort of rotation is a matter of necessity, as the same crop cannot be grown on both occasions. But in Garhwal a simple rotation on these lines is not practicable, from the fact that in most land the early autumn crops have to be sown before the spring crops are ripe. Hence the standard two-year rotation of the hills mentioned by Mr. Traill of rice, wheat and *mandua*.* Rice is sown in April and reaped in September. It is followed by wheat sown in October and reaped in April. Then *mandua* is sown and reaped in October, after which the land remains fallow till next April. For the purpose of this rotation the village lands are divided into two parts. Rice is grown in half and *mandua* in the other half. The half in which rice is sown is known as the *satyara* (Garhwali *sati*-rice); that in which *mandua* is sown is known as the *kodara* (Garhwali *koda-mandua*). In the winter the *kodara* is left fallow, while in the *satyara* wheat is sown, and this portion then becomes known as the *gyunwara* (*gyun-gehun*, wheat); and subsequently when *mandua* follows the wheat it becomes the *kodara*, while the

**Statistical Sketch*, p. 26.

kodara of last year becomes the *satyara*. The system of leaving fallow a whole block of land instead of scattered fields here and there, has its advantages when the cattle are turned loose to graze on the remnants of the straw and the grass that can be found on the terrace walls. For this reason half or nearly half the village will be found apparently lying waste in the winter. In land which is too stony to grow rice or wheat, *jhangora* is substituted for the one, or barley for the other, or both; but this does not affect the system of rotation, nor the method of carrying it out.

"The above rotation is however practically confined to unirrigated land or land in which the irrigation is very poor. The irrigated land, lying as it usually does at the bottom of a valley, is as a rule the warmest in the village. Moreover there is no risk in the rice being somewhat late, as it is protected by the irrigation against any damage which might be done to late dry rice by an early cessation of the rains. The rice harvest begins at the top of the hills and goes down to the bottom, whereas the spring harvest proceeds in the opposite order. For these reasons in irrigated land it is always possible to grow two crops, one of rice and one of wheat, in the year; and as the rice is a deep-rooted crop and the wheat a short-rooted crop, while the process of irrigation in itself constitutes a dressing of the land, this rotation leaves little to be desired. However the wheat crop in the cold weather, besides being poorer than in corresponding unirrigated land (the native explanation of this is that the soil is too damp and cold), has a prejudicial effect on the quality and yield of rice, and is therefore not infrequently omitted altogether. This same rotation of rice and wheat is carried out in dry land in the Jhart valley of Painon. A similar double rotation is carried on in dry land in the hotter parts of the Alaknanda valley. There *jhangora* and wheat are alternately grown without any interval of fallow, wherever a good clay soil is available.

"Another two-crop rotation is that of *chuwa* and barley. This is much practised in the northern villages in fields near the homestead which are regularly enriched with manure. In the south there is a similar rotation with *ugal* or buckwheat *(fagopyrum esculentum)* substituted for *chuwa*, but confined to outlying land. *Ugal* is said to have the merit of not being injured by the mists which in the rains settle on the tops of all hills south of the Khatli-Utain range,

In the higher villages of the north, where barley does not ripen till May and June, the double crop becomes impossible, and the rotation then practised is *chuwa* (April to September), followed by barley (October to June), followed by mustard (August to December). The land then remains fallow till April when *chuwa* is again sown. But the people of those villages are shepherds rather than agriculturists by profession, and the rotation is not always practised.

" The standard rotation for outlying land which is too far from the village to be manured in the ordinary way is as follows :—Wheat or barley is sown in the autumn and reaped in the following spring. Curiously enough, if the ground is stony and uneven, wheat is chosen, if level and good, barley, as wheat is said to thrive under more disadvantageous circumstances than barley. It is followed immediately by a crop of *mandua*. After this is cut, the field is allowed to remain fallow during the winter, and next summer a crop of *jhangora* is raised. The land then remains fallow for a period of three years, when the process is repeated. The whole rotation thus occupies five years. The name applied to this rotation or rather the land on which it is exercised is *tisali*. The rotation is practised indifferently on terraced or unterraced land, though usually on the former. The vegetation which springs up during the three years' fallow is sometimes burnt and sometimes ploughed in. The rotation is sometimes lengthened by adding *gahat* or *ugal* in the third year and prolonging the fallow to six years, or nine years in all. This variation is practically confined to unterraced land and *katil*. The length of fallow allows time to the bushes to put forth considerable shoots, which when cut and burnt form a valuable top-dressing for the land. *Tisala*, or intermittent cultivation on terraced land, is practically confined to the south of the district, though in the north as elsewhere such unterraced cultivation as exists (*khil*) is treated with periods of fallow.

" A favourite rotation in Talla Dhangu, where *katil* cultivation abounds, is one of *til* (sesamum) followed next year by *jhangora* and three years' fallow. It is said however, that this rotation is hardly profitable except in newly-broken land." (Pauw's settlement report.)

In the Bhabar, in order to bring in the autumn crop of rape as well as wheat, a very long rotation is employed. Rice and wheat follow one another as in the hills ; next rains however maize is sown

instead of rice. This ripens in 60 days and after it is cut mustard is put in. This is reaped in December and followed by *ganara*, reaped in April, making five crops in two years. It is seldom however, that the whole area is sown with either maize or *ganara*. The former diminishes the yield of mustard and is more often than not omitted from the rotation, while for the latter water is usually deficient.

In some eastern villages of the Bhabar rice is hardly grown at all, tobacco and cotton being the favourite crops. When the land on and near which a cattle station has stood is first ploughed up, crops of tobacco and maize are alternately grown for about three years. Thereafter when the soil becomes exhausted, crops of wheat and cotton are raised. When water is available for irrigation, wheat can be sown after the cotton is reaped, otherwise after the cotton crop the land is left fallow till the next wheat sowing, *i.e.* for about ten months.

In the greater part of the district there are two harvests. The *kharif* is reaped in September and the *rabi* in April. The chief crops of the former harvest are rice, *mandua* and *jhangora*. Others of less importance are *kauni*, *chuwa*, *til* (sesamum), maize, *china*, (*panicum miliacum*) the pulses *urd*, *gahat* and *bhat* (*glycine saja*), pepper, ginger, turmeric and sugarcane. *Kauni*, maize and *china* come to hand rather earlier than the main crops. In the hills *tur (cajanus flevus)* which corresponds with the *arhar* (*c. bicolor*) of the plains is sown in March and reaped with the main *kharif* crops. The *rabi* crops are wheat, barley and mustard. The harvest becomes later as greater altitudes are reached. Thus at 6,000 feet the spring harvest does not ripen until May, at 7,000 till June, at 8,000 during July; and at Amli above Joshimath, which is nearly 9,000 feet, it ripens during August. Higher still the seed is sown when the snow melts in June (it would not benefit by being sown in the autumn and allowed to lie under the snow during the winter) and reaped with *kharif* crops in the autumn. Crops, seed time and harvest.

In 1827 Dr. Royle suggested to Lord Amherst the probability of successful cultivation of tea in the mountains of Kumaun; and in his "Illustrations of Himalayan Botany" published in 1834 he gave at length his reason for this opinion. Sir Joseph Banks, Dr. Govan, Dr. Wallich and Dr. Falconer share with Dr. Royle Tea.

the honour of having first drawn attention to this subject. In 1834 a committee, with Dr. Wallich at its head, was appointed by Lord W. Bentinck to investigate the question, whether there was a possibility of introducing successful tea cultivation into this country. In 1835 tea seeds were procured from China and from them plants were raised in Calcutta and sent to Assam, Kumaun and Garhwal. Tea nurseries were established by the Government and in the two latter districts they were placed under the superintendence of Dr. Falconer of the Botanical Garden at Saharanpur. In 1841 he reported in very favourable terms of the prospects of tea cultivation. He had contented himself with watching the growth of the plants and reproducing them, abstaining from any attempt to manufacture tea, for which he had no skilled workers, and being unwilling to prejudice the industry by producing an inferior kind of tea. He applied for establishments of Chinese tea manufacturers for the nurseries in Garhwal and Kumaun. They arrived in April 1842. In December of the same year Dr. Falconer was compelled by bad health to leave India. He arrived in England in June 1843 taking with him the first specimen of Kumaun tea, which was very favourably received. Dr. Falconer was succeeded by Dr. Jameson, and under his management the tea plantations were greatly enlarged. It appeared however that the tea plants introduced into India in 1835 were not of the variety most approved in China, and to remedy this Mr. R. Fortune was in 1848 deputed by the Court of Directors to visit China. Mr. Fortune was most successful. "As the result of this mission" he says "nearly twenty thousand plants from the best black and green tea countries of central China have been introduced to the Himalayas. Six first-rate manufacturers, two leadmen and a large supply of implements from the celebrated Hwuychow district were also brought round, and safely located on the government plantation in the hills." Although Mr. Fortune took exception to some of the practices that were followed, he reported in 1851 very favourably upon the prospects of cultivating and manufacturing tea in Kumaun. He described the soil and climate as admirably suited to the tea plant. Mr. Batten, the Commissioner, then formulated his proposals. He suggested that the Government should grant liberal *taqavi* to cultivators (for the improvement

of existing cultivation) and prizes to those whose produce was of the best class. To this the Government agreed, but was unable to accept his third proposal, that for the remainder of the current settlement all leaf should be taken over by government factories at a uniform rate of Rs. 8 a maund. An experiment tried near Lohba of granting land revenue free for tea cultivation was a failure. A government factory with a staff of three Chinese and ten native makers was started at Gadoli near Pauri. Lohba had been selected as the site for another government tea factory, but as private enterprise started one at Silkot in the same *patti* the project was abandoned. It was hoped that cultivation would become universal, every *zamindar* having a few acres under tea, the leaf of which he would deliver to the nearest factory. These hopes were falsified by the apathy and indolence of the Garhwali and his objection to putting money into a somewhat precarious crop like tea. Moreover in Garhwal few villages can produce more than a year's supply of food; it is therefore necessary to sow every available acre with a food crop. To plant tea would be to withdraw land from its proper function, and would entail many long and wearisome journeys to the plains for the replenishment of the food stocks. What tea is now grown is the produce of the estates attached to the tea-factories. The industry is, it is to be feared, in a bad way, the result of competition and difficulty of transport. The central Asian market has not been captured, and, with heavy Russian import duties on Indian tea and the monopoly of the trade in Tibet in the hands of officials interested in sale of Chinese tea, the prospects of an expansion of the Kumaun tea industry are very dismal. The largest tea estate in the district is that of Gwaldam. Smaller gardens exist at Museti, Beni Tal and Silkot. In 1897 the district produced 69,000 lbs. of tea and in 1907 only 52,000.

Hemp is now cultivated by the *pavilas*—low caste Khasiyas of Chandpur—in rich plots of land adjoining the village; the former custom of sowing the crop in forest clearings having been discouraged on account of the damage done. The stalks are cut green and dried in the sun. They are then tied into bundles and steeped for 15 or 16 days in water, then taken out, beaten with wooden mallets, and again dried in the sun. The fibre (*lampha*) is then Hemp.

peeled off from the thick end of the stalk and after being again beaten and freed from impurities is tied up into hanks for sale or manufacture It is woven into cloth called *bhangela* which is worn by the Chandpur people generally, or made into bags. There is a little export by way of Kotdwara and Ramnagar.

Other crops.

Garhwal is famous for its turmeric, ginger and chillies. These are grown in the southern *pattis* at no great distance from the plains marts where they find a ready sale; the proceeds of these crops pay the revenue besides leaving a little spare cash in the cultivator's pocket. The potato is not very widely grown. Onions, spinach and *baingan* with cultivated and wild pumpkins of many kinds form the Garhwali's vegetable resources.

Prices.

Prices are not easily ascertained for the reason that every man aims at growing enough food for himself and his family. He rarely sells—except crops grown specially for sale, such as ginger, turmeric and chillies, with occasionally a little surplus rice or wheat: and if he buys, he buys from a neighbour and does not have recourse to any of the well-known marts. Scarcity of course dislocates the domestic system altogether, and the hill man is then compelled to visit the markets for sustenance. He prefers the submontane markets, thinking little of his journey in consideration of the more favourable rate prevailing there. Pauri, Srinagar and Kotdwara support bazars. The former is of little importance and exists solely for the benefit of the official population. The market of Garhwal is Kotdwara: it receives whatever is produced in the interior of the district, which it supplies with salt, cloth, iron and the like. Srinagar derives its importance from the pilgrim traffic.

Wages.

An ordinary coolie will not usually work for less than four annas a day but paid by the month will accept Rs. 6. Wages have risen greatly with the issue of Garhwal from its stagnation. The Doms have perhaps benefited more than any other class. Formerly they did all the statutory labour imposed upon their villages and probably got more kicks than half-pence. To-day an ordinary mason can get Rs. 15 or Rs. 20 a month. A carpenter will earn about as much, and a *lohar* still more. The result is that the *bith**

* The term includes all non-Dom hill villagers, i.e. Rajputs and Brahmans.

is somewhat overcoming his prejudice against work of this nature. Agricultural labourers usually get the morning full meal and half the afternoon meal called *kalewa*, together with one or two *sers* of grain as wages.

All who can afford it eat wheat and rice. The staple foods of the poorer classes are the coarser millets such as *mandua* and *jhangora* with the pulses *bhat* and *gahat*. There is a proverb that hunger is abroad when the peach is in flower or when it is ripening, that is to say in March and July before the harvests come in. In the north of the district this temporary scarcity of food is much alleviated by the use of *chuwa* leaves boiled with a little grain if possible: if not, *au naturel*. Pumpkins are also cut into chips which are laid in the sun to dry and then ground into flour. Fish is eaten by all classes and as already mentioned the riparian villagers find in fish an important supplement to their ordinary food stocks. All except a few Banias and ultra-scrupulous Brahmans eat meat, the flesh of the short-tailed sheep and the goat being much esteemed. The plains sheep is not in favour, "its long tail constituting it in the eyes of the hill man a kind of dog." Among game the pig and the *kakar* and *gural* are much esteemed; *chakor* are run down and captured: everybody will eat pheasants, but the jungle fowl is tabooed. In the jungles trees such as medlars, *bers*, figs and other fruit trees are very common; but even in times of scarcity they are little used, and whereas in the plains the *bers* are gathered and stored, in the hills they are allowed to wither on the bushes. Vegetables are coming into favour, though the more prejudiced Brahmans and Banias will reject tomatoes and beet, from their supposed resemblance to flesh. Wild vegetables, chiefly pumpkins, are common and acceptable. Food.

Garhwal has no manufactures except blanket and hemp weaving already mentioned in another connection. A few baskets and matting are woven in Lohba, Chandpur and Badhan from the *ringal* bamboo. Manufactures.

The manufacture of hill paper is still continued in two villages, Darpati and Salong in *patti* Dhaijyuli. It is sold locally at three annas for a dozen sheets. The paper is made out of the bark of a shrub called *satpura* (*daphne cannabica*). The bark is first boiled Hill paper.

and then pounded into a pulp: the pulp is then pressed between moulds made of cloth, and dried.

Trade.

Garhwal trade admits of a triple classification: trade to the north with Tibet, trade to the south with the submontane markets, and trade between different regions within the district.

The Tibetan trade.

The trade with Tibet is entirely in the hands of the Bhotias of the Mana and Niti valleys, who number in all 470 and are by comparison with their neighbours of the Almora district a small and depressed community. Merchandise is carried generally on sheep and goats but sometimes on asses or yaks, over the Mana and Niti passes, where the snow does not melt until May or June. The season lasts until November when snow once more closes the passes. Within the season an energetic Bhotia will make three or even four journeys. Before any traders from Niti are allowed to visit Tibet, the Jongpen sends down a subordinate official, styled a Sarji, to enquire as to the existence of any disease among men or cattle. Being assured that there is none, he requires the Bhotia communities to enter into a curious form of agreement. The Sarji is presented with a stone and the Bhotias promise to forfeit its weight in gold should they introduce any disease into Tibet. At the same time the Sarji is entitled to an initial fee of one *timashi** and two *manas* of rice from every family; and to a final fee, after business has been done, of four *timashis* for every hundred goat-loads. At Hoti he exacts a toll of six *timashis* from each family: this is called *lha thal* or a due for crossing a ridge. It is supposed that four *timashis* go to the Jongpen and two to the Sarji who is stationed at the ridge. Having received the Sarji's permission to enter Tibet, the Bhotias headed by their chief, the *phungia*, proceed on their journey. Niti village is about thirty miles by road from the frontier, and the mart of Dapa, to which they chiefly resort, is the same distance from the watershed towards Tibet. From Dapa they may obtain special licences to trade in Hoti, Dam, Chhogila, Shib-Chilan and Gartok. But general permission to trade and special licences all cost money. Arrived at Dapa the Bhotias have to pay one *phancha*† (or saddle bag) of barley for each family: while the headman's offering is a bag of rice. A

* Three annas.

† Each sheep or goat carries two *phanchas* containing about five or six *sers* each.

further impost of one bag of barley is taken in payment of the tax called *poo*. A Licence to trade in other marts besides Dapa is called *lhamik* and it costs one anna. A door tax styled *go thal* at the rate of two *timashis* a door is levied on the traders in respect of the houses they occupy during their stay in Tibet. The fee to trade outside the established marts is three rupees for every hundred goats. It was formerly the custom for each trader to exchange presents with the Jongpen on the occasion of every visit to Tibet: he offered a bag of barley and received in return a bag of salt; but now the return present has been remitted by the Bhotias, in consideration of the advantage they derive from the Jongpen's prohibition of trade in salt and wool by their rivals, the Johari Bhotias of the Almora district. A commission on actual deals is however still exacted, the buyer and the seller alike paying three rupees on a hundred loads. The weighman, called in the Tibetan language *labu gatpo*, is entitled to the generous remuneration of one *patha* of barley in twenty, and two *manas* of rice in twenty pathas. (A *patha* is equal to about two *sers*, and a *mana* is half a *ser*.)

A few Johari Bhotias also live in the Niti valley. They are somewhat more leniently treated. They pay a poll-tax of two *timashis* at Hoti and a hearth-tax (*thap thal*) at the rate of half a *timashi* a family. At the conclusion of the venture the padhan is required to buy seven *dums** of tea at eight rupees a *dum* from the Jongpen, who holds the monopoly. The Khampas (who are not Bhotias but Tibetans settled in British territory) are subject to the same exactions as the Joharis and in addition have to pay the *lhamik*, while each family is required to buy a *dum* of tea at the fixed price. **Joharis.**

The Mana people were probably at one time subject to the Tibetan government, which still exercises certain sovereign rights over them. They pay a land-tax, (*sing thal*) at the rate of two *timashis* a family. They need no special permit to go to Gartok and are allowed to camp without having taken out a pass: but pay five rupees a family as a sort of general export tax, together with one *phancha* in every ten, and a forced contribution to the Chaprang temple of two hundred cubits of white cloth together with some sandal wood and a rupee in cash. Their marts are Chaprang and Tholing Math. **Mana.**

* A *dum* is about two or two and a half *sers*.

Exports. The chief exports are food grains such as barley, wheat, rice, *dal*, *phapar*, *jhangora*, *mandua*, onions, potatoes, and cloth of all kinds, *gur*, tobacco, sugar, spices and dried fruits and silver vessels; and the imports are salt, borax, ponies, *jubus*, goats and sheep, dogs, wool and woollen goods of all kinds, rugs, Chinese shoes, ornamented Tibetan saddles, tea, butter, gold, yak tails and horns. Salt and borax are taken in exchange for grain as a rule, while for other articles the Bhotias give either cash or piece-goods. Indian money is freely accepted. Credit is occasionally allowed: but never for long, as the chief Tibetan traders are often magistrates and their demands for cash in consequence have to be promptly met. Each Bhotia trader has a special correspondent or *mitra* in Tibet. Inside Tibet the parties are free, but in the Niti valley, they can only deal with each other. Any breach of the custom is regarded with grave disapproval, and is indeed actionable either in our district courts or in those of Tibet.

Though only the Bhotias are allowed to cross the frontier and trade direct with Tibet, every northern villager who can buy or borrow a flock of goats or sheep, trades between the Bhotia passes of Painkhanda and his own neighbourhood, and from July to November the passes are thronged with these people and their flocks. Salt is received in exchange for grain, and is distributed by the traders throughout all upper Garhwal.

In October, as the winter advances, the Bhotia begins to transport the remainder of his Tibetan merchandise to the south. The villages in the Mana and Niti valleys are deserted early in November, the snow rendering them uninhabitable, and the Bhotias establish camps for their women and children and dépôts for their stock in trade at various points along their road through the upper midland parganas. On their way to these dépôts and on the further journey to the south, excursions are usually made into the villages on either side of the route, which purchase such salt and wool as they may require. Finally the merchandise which has not been used on the way reaches the plains at Kotdwara or Ramnagar, where it is sold for cash or exchanged for grain at advantageous rates. Two or three journeys are sometimes necessary before the goods left in the dépôts are finally disposed of, and on the return journeys the Bhotias often carry up grain or salt from the submontane markets for up-country

Banias. The Bhotia never gives his animals any grain : and the result of this practice is that they require the greater part of the day for grazing. The day's journey is by consequence extremely short, seldom exceeding six or seven miles, and is always over by 9 or 10 A.M. in all weathers.

Present position of the trade. Posts are maintained at Mana and at Bampa in the Niti valley for the registration of trade between Tibet and British Garhwal. The returns for the ten years ending in 1907 point to a general diminution of trade. At Mana the imports of salt have decreased : and on the average only eight maunds of borax pass the post in the year. Wool has greatly decreased, from 307 maunds in 1899 to 99 maunds in 1907; cotton and grain exports have declined in sympathy. At Bampa the import of borax has remained fairly constant, but that of wool has decreased by one-third. The grain exports have been fairly stationary, the only noticeable exception being a decrease in millets, which may merely point to a higher standard of luxury among the Tibetans. Prices are rising, and the Tibetans no longer gratefully accept whatever the Bhotias offer them for their merchandise. And the Tibetans are now beginning to show some enterprise and exploit their own goods in the Indian markets. Profits are no longer what once they were. The cost price of wool for instance has increased fivefold in the last few years. The northern villagers are beginning to despise the Tibetan salt, using in its stead that carried up from the Bhabar markets. It is very doubtful whether the many complicated imposts to which the Bhotias are subjected can be fairly levied on the trade in its present condition ; but any remission is hardly to be expected.

The Bhabar trade. The chief commodities, for the supply of which Garhwal is dependent on outside markets, are cloth, sugar, salt, and in the south iron. The northerners get salt through the agency of the Bhotias from Tibet. The Dasoli and Nagpur people however often possess flocks of sheep and goats, and upon them they import their own salt and sugar from the plains. Cloth they either buy from shopkeepers at small hill markets such as Karanprayag or Chamoli, or they commission the Bhotias to import it for them from Kotdwara or Ramnagar : while a few actually make the journey to the plains themselves, especially if they have any special product such as chillies or hemp to dispose of. From the centre and south of the

district however every ordinary householder will make at least one journey to the Bhabar for his year's supply of salt, cloth, sugar and iron. The majority have no beasts of burden whatever and one can often see strings of men (*dhakri log* as these travellers are locally called) laden with their bundles of cloth or narrow hempen bags containing salt and holding T-shaped sticks (called *matu*) for the support of their loads during brief halts by the wayside. They always take the shortest cut, disregarding graded roads. Imports are nearly always for personal and home consumption. In times of scarcity the purchases include also grain, and the journeys then become greatly multiplied, for on the average a family cannot carry up more grain than will suffice for the food of a single month. It is during those recurrent seasons of semi-famine that the *banjara* carriers reap a golden harvest. They are in nearly all cases plains Muhammadans or Kumhars from Nagina or Najibabad in the Bijnor district, and they drive mules or ponies, which, though in poor condition, are capable carriers. They are employed throughout the year in supplementing the locally acquired stocks of the Banias at Pauri, Srinagar and other places on the main road: but when the crop outturn has been in any way unsatisfactory their business expands beyond belief. The roads are crowded with their pack-animals and in May and June the stench, especially at the halting places, is indescribable. They can then command as much as three or four rupees a maund for carriage as far as Pauri or Deoprayag. It reflects little credit on the energy of the hill man that he has allowed this very remunerative trade to be captured by plains men. He takes his revenge to some slight extent by retailing grass at the principal *paraos*, for which he or rather his wife exacts famine prices. Pack bullocks or buffaloes are, for no apparent reason, very seldom seen in the hills. The merchandise obtained in the Bhabar marts is usually paid for in cash. Villages of the south which can command sufficient pasturage usually bring down their surplus stock of *ghi* to sell here, while the *pattis* of Malla Salan and the western ones of Talla Salan usually have, after the necessary purchases have been made, from the sale of chillies, ginger and turmeric a surplus sufficient to pay the government revenue.

Internal trade.

The internal trade has already been in part alluded to in the description given above of the Bhotias' traffickings in salt and wool

imported from Tibet. Trade between villages is usully conducted by barter, the objects of which are the acquisition of a special product such as sesamum grown in the rocky fields of Barahsyun. This is usually paid for in food grain. Villages which concentrate their efforts on chillies are often hard pressed in times of scarcity, and only obtain their food after rather complicated transactions. In 1908 for instance they found themselves compelled to exchange at the Bhabar marts their chillies for *gur*. This they carried up-country and bartered where possible for *mandua*: not without difficulty, for the prudent possessors of an ample stock were not inclined to take any risks. The Garhwali has, however, the reputation of being devoted to his children, and the intelligent trader having excited their cupidity by a display of the much-appreciated sweetmeat, left their clamours to win over their parents. Surplus rice, wheat and *ghi* in ordinary years are sold to the shopkeepers who do business along the pilgrim way. *Ghi* produced in the north is first collected at Pipalkoti, whence it ultimately finds its way to Badrinath; or it is collected by itinerant Kumaon traders who contract to take it and visit the villages at intervals. A considerable trade in this commodity has sprung up of late years. Bees are kept in most villages with an altitude of over 5,000 feet and the honey produced commands a ready sale: it nearly always finds a place in complimentary gifts. In the more northern *pattis* some income is derived from wild bees' honey. It is dark in colour and palatable only to cattle. A small local business is also done in blankets and hemp.

Weights and measures.

The standard measure of capacity in Garhwal is the *nali* or *patha*. A *nali* of wheat weighs exactly two *sers*: one of rice about $1\frac{3}{4}$ *sers*; twenty *mutis* (handfuls) or four *manas* are equal to one *nali*; 16 *nalis* make a *don* or *pirai*, and 20 *dons* make a *khar*. In the Bhabar the heavy *ser* of 90 tolas is used, while up-country the 84-tola *ser* is current.

The standard of square measure is also the *nali*; and as in the case of the measure of capacity, the basis of calculation is the *nali* of wheat. A *nali* of land is the amount that can be sown by one *nali* of wheat. Mr. Traill standardized the *nali* at 240 square yards. Twenty *nalis* make a *bisi*, or practically an acre. For the expression of larger areas of land recourse

is had again to the measure of capacity. A *jyula* or ploughgate (*cf.* Dhaijyuli and Dasjyuli *pattis*) was a varying amount of land producing from a *khar* to 8 *dons*, the latter becoming the standard on the British occupation. For long measure the *hath* or cubit, the *jarib* or chain of 20 yards and the English mile are used.

Communications.

In the appendix will be found a list of roads according to their official classification. Here they will be considered in two classes: those connecting Garhwal with the plains, and those which connect it with its neighbours on the east and the west or are purely local cross-roads. The former are much the more important from the economic point of view, and though it is satisfactory to be able to record great progress in opening out the district, much more remains to be done.

With the plains— (a) with Kotdwara.

The centre and west of Garhwal finds its outlet at Kotdwara station, the terminus of a branch of the Oudh and Rohilkhand Railway from Najibabad opened in 1897. A cart-road connecting Lansdowne with Kotdwara was completed in February 1909. For all practical purposes however its northern terminus is Dogadda, a rising market at the junction of the Khoh and Sili gadh streams. The cart-road between Kotdwara and Dogadda is the first stage on the long journey to the upper pattis. From Dogadda an excellent bridle-path takes the traveller up the Khoh river to Dadamandi. Thence it ascends the Langur range, which it crosses at Dwarikhal, reaching Banghat on the Nayar river after a descent of six miles. It may be observed in passing that this range, which runs across the district from east to west with an average height of about 5,000 feet, interposes a most formidable obstacle to the exploitation of Garhwal by means of cart-roads. Banghat is for Garhwal a fairly large bazar. Thence a branch road follows the line of the Nayar westward as far as Byansghat, the junction of the Nayar and Ganges rivers. The main line north is continued as far as Pauri *via* Adwani. From Pauri the trader or traveller has a choice of two routes. If he is driving plains ponies or pack sheep and goats he will descend to the Ganges valley at Srinagar and follow the course of that river as far as Rudrprayag. Thence if his destination be Nagpur he will ascend the Mandagini river by the pilgrim way at the head of which stands the temple of Kedarnath : otherwise he will maintain his course along the Ganges

river until he reaches Karanprayag. If however he is carrying his own load, he will follow the road along the ridge past Khirsu, Bhainswara and the Dhanpur copper mines to Chatwapipal where he will strike the pilgrim way. From Chatwapipal Karanprayag is 6 or 7 miles away. The steep gradient of the Dobri-Dhanpur hills is too much for pack animals which therefore take the easier but longer Ganges valley road. From Karanprayag the road follows the river past Chamoli, Joshimath and Badrinath to the Mana Pass on the Tibet border. Another road branches off at Joshimath, passes Tapoban and Malari and leaves the district by the Niti Pass. A third path however between the Kedarnath and Badrinath roads, is carried across the Alaknanda by the Chatwapipal bridge. Thence it follows the Khunigadh stream to its source near Nagnath and passes Pokhri and Mohankhal, coming to an end at Bhiri on the pilgrim route, where a little-used track goes on to Tungnath. This road is really a continuation of the Pauri-Khirsu-Dhanpur-Chatwapipal road. At Tungnath it meets the portion of the pilgrim road joining Ukhimath and Chamoli. Chamoli can also be reached by a rather poor track branching off at Nagnath.

The second great trade route leaves the cart-road at Fatehpur, about 2 miles above Dogadda and crossing the Langur range descends to the Nayar at Ukhlet. Thence it has two branches following the two Nayars. The valley of the western Nayar brings the road to Mason. From Mason Pauri is 12 miles away, to the north-west. After Mason Chipalghat is the next important point reached. At Chipalghat the main Pauri-Almora road is crossed. The road continues to follow the valley up to the Dudatoli watershed and a short drop on the other side brings the traveller to Chandpurgarhi. Thence he will follow the pilgrim way as far as Simli about 10 miles away on the Pindar river, where this route may be said to come to an end. The eastern branch follows the eastern Nayar as far as Chandoli, but it is an internal communication rather than a trade route.

(*b*) with Afzalgarh.

Afzalgarh is an important mart in the Bijnor district and it is connected by a forest road, which crosses the Ramganga at Dhikala, with Banjadei in *patti* Painon. It is open to wheeled traffic as far as Dhikala throughout the year except during the rains, when the Ramganga cannot be forded. The hill trade is largely

with the bi-weekly bazar at Kalagarh on this road. From Banjadei it is continued by a good bridle-path which crosses the obstructing range at Rikhnikhal and reaches the eastern Nayar at Churani. Thence it makes a slight ascent to Pokhra in *patti* Talain, where it ends.

(c) with Ramnagar. In 1907 the Moradabad-Ramnagar branch of the Rohilkhand and Kumaun Railway was opened. Ramnagar, the northern terminus, is a considerable commercial town in the Naini Tal district. Its connection with Garhwal is by the public works department road to Mohan in the Almora district; thence a good forest road renders wheeled traffic possible to within a mile of the Marchula bridge on the Ramganga river, about 2 miles from the Garhwal border. From Marchula bridge a tolerable bridle-path follows the Deogadh to Salt Mahadeo, Kuchyar, Bironkhal and Baijrao. The portion of the road between Marchula and Salt Mahadeo is usually impassable during the rains, owing to frequent landslips; but during the rest of the year a track is opened out along the torrent bed and camels can travel as far as Salt Mahadeo. From Baijrao the road divides into two branches connecting it with Kainyur and Bungidhar, two stages on the Pauri-Almora road, and from Bungidhar the road is continued over a shoulder of Dudatoli to Lohba. The latter is also connected with Ramnagar by another route, through Ganai and Bhikiasen in the Almora district. From Lohba northwards the road is continued by Narainbagar and Ramni to Tapoban in the Dhauliganga valley, where it joins the road to the Niti Pass.

The *pattis* west of the Pauri-Dogadda road and south of the Nayar river have the choice of three routes to the plains. The first is by a path along the Langur range to Dwarikhal, where it joins the first road described. A second is the road between Byansghat and Chaukighatta—a pass on the outer range about 5 miles west of Kotdwara. The third is the lower stretch of the pilgrim way between Byansghat and Lachhmanjhula, and thence on by Rikhikesh to Hardwar in the Saharanpur district.

Gwaldam is the gate of the Badhan pargana, which is traversed by 2 roads, one running north past Wan to Ramni, where it joins the Lohba-Narainbagar-Ramni-Tapoban-Niti Pass road, and the other following the Pindar valley as far as Tharali, thence

up the hill past Dungri to Ghat and so down the Nandakini river to Nandpryag. From Gwaldam southwards the natural line is through the Almora district to Baijnath; thence to Haldwani either by the Ranikhet cart-road, or by the Almora-Ranibagh bridle-path.

Local communications.

Pauri is connected with Almora by two roads. The first follows the Khirsu ridge as far as Mandakhal, then drops into the valley of the western Nayar near Musagali. Thence it follows the valley of the Panjak past Chipalghat to Saknyana, over the watershed to Kainyur on the eastern Nayar: thence over another ridge to Bungidhar where it leaves the district, reaching Almora by Kelani, Ganai, Dwarahat and Bhainskhet. The second proceeds *via* Jwalpa and Pokhra to Baijrao and is continued in the Almora district through Tambadhaund and Masi to Dwarahat. Bah in British Garhwal and Deoprayag in Tehri Garhwal are situated at the junction of the Bhagirathi and Alaknanda; together they are of some importance. They are connected with Pauri by a road 15 miles long. From Adwani between Pauri and Banghat a road runs down to Byansghat, already mentioned. A cross-road runs from Srinagar through Khirsu to Musagali, and another track leads from Khirsu to Chantikhal on the pilgrim route. Other unimportant bye-ways exist, but do not need detailed description beyond what is suggested by the list in the appendix.

In addition to the recognized roads and paths maintained by the public works department and the district board some mention must be made of the settlement village paths. Every village is connected with its neighbours by ancient and occasionally well-made tracks, for the proper repair of which the *hissedars* are by their settlement engagements responsible. Many of these paths have acquired a more than local importance, forming links of a chain in the communication between important markets and the interior of the district. They were all put into excellent condition after the settlement by Mr. Pauw's orders, but have since then fallen into disrepair for want of the necessary efficient supervision. The maintenance of these paths includes also the erection of temporary plank bridges, called *bhiuntus*, over streams which intersect them.

On the subject of communications the remarks of the *Calcutta Review* of 1852 are worth repeating:—"Our greatest fault has perhaps been this, that we have done comparatively little to improve the means of communication between the different parts of the country. The want of such means is fatal to the improvement of any country, and most especially is this true in a country like Kumaun, covered with vast mountains, and constantly intersected by impassable torrents. Roads and bridges are equally important to every class of the community, to the agriculturist as much as to the merchant, and their material influence is not greater than their moral." This reproach, as far as the bridges are concerned, can no longer be sustained. The roads are however seldom good, and the absence of commercial cart-roads is still the greatest obstacle to the development of the district.

Bridges and transport.

From time immemorial the hillmen have been acquainted with the following four kinds of bridges: (1) one or two spars thrown across from bank to bank; (2) a succession of layers of timbers, the upper gradually projecting beyond the lower from either bank towards each other, in the form of a cantilever until the interval in the centre is sufficiently reduced to admit of a single timber being thrown across the upper layers, the ends of the projecting timbers being secured in the stone piers; these bridges, which are called *sangas*, are usually from two to three timbers wide and have sometimes a railing on either side; (3) the *jhula* constructed of ropes; two sets of cables are stretched across the river and the ends are secured in the banks, the roadway consisting of slight ladders of wood two feet in breadth suspended at right angles to the cables by ropes of about three feet in length; by this arrangement the horizontal cables form a balustrade to support the passenger while reaching from step to step of the ladders; a construction of this kind necessarily requires a high bank on both sides of the river, but where this advantage is wanting the deficiency in height is supplied by a wooden gallows erected on the two banks over which the ends of the cables are passed; (4) a bridge consisting merely of a single cable stretched across the stream to which is suspended a basket running on a wooden ring; the passenger or baggage is placed in this basket and drawn across by a man on the opposite side by

means of a rope attached to the bottom of the basket. This is termed a *chinka.*

The people are bound by their settlement engagements, partly in consideration of the extremely small land revenue they pay and partly because no better system can be devised, to provide travellers and officials on payment with supplies of food and coolie transport. The former duty has now been entrusted to government banias for whose maintenance a small cess is levied on the *hissedars*. At Lansdowne and Kotdwara coolie agents, and in the rest of the district patwaris, will supply coolies to travellers armed with an order from the Deputy Commissioner. These coolies are liable to accompany the traveller for a single march only, and are supplied by rotation from the villages in the *patti* concerned.

Bungalows.

The district is well provided with bungalows for the convenience of officials and travellers. The district board maintains two with *khansamas* at Kotdwara and Lansdowne. On the road to Pauri are placed at fairly convenient stages bungalows at Dadamandi, Banghat, Adwani and Pauri. Dadamandi is 14½ miles from Kotdwara bazar and 16 miles from the railway station. Most travellers therefore make the public works department inspection house at Dogadda the first stage. The second and third then become the forest bungalows at Dwarikhal and Kaleth, which are cooler in the hot weather than Banghat. On the Pauri-Almora road staging bungalows are to be found at Musagali, Saknyana, Kainyur and Bungidhar: and along the pilgrim way the public works department have erected inspection houses at Lachhmanjhula, Bijni, Kotha Bhel, Byansghat, Bah, Ranibagh, Srinagar, Chantikhal, Rudrprayag, Nagrasu, Karanprayag, Sunla, Chamoli, Pipalkoti, Gulabkoti, Joshimath, Adbadri, Lohba, Badrinath and Sesdhara. The district forest department has built bungalows along the Pauri-Dhanpur-Nagnath road at Khirsu, Chari, Bhainswara, Dhanpur, Sirkot and Nagnath: at Tilkani between Bhainswara and Adbadri, at Dimdima between Adbadri and Lohba, and at Ramni. All except the Khirsu, Dhanpur and Sirkot houses are wooden huts. The old dâk bungalow at Kotdwara was made over to the Bhabar estate on the erection of a new house close to the railway station. There is a public works department inspection house at Lansdowne. The Ganges

forest division has houses at Kotdwara, Kunaun, Chila, Laldhang, Haldukhata, Saneh, Koluchaur, Chaukan, Hathikund, Morghatti, Pakhrao, Halduparao, Salkhet and Mithwala : and the Garhwal division at Rathwadhab, Kanda, Lohachaur, Dhikala, Buksar, Kalagarh, Jhirna, Patairpani, Mundipani, Gerur and Ganjpani. Last of all there still stands on the banks of the Gohna lake the house built at the time of the flood in 1894, and now disused. From its verandah a beautiful view can be obtained of the Trisul snows.

Ferries.

A list of the ferries in the district will be found in the appendix. They are of little importance, as all the main streams and the more considerable of their affluents have been bridged at important points. The term "ferry" in its technical administrative sense also includes bridges of the various kinds already described. The ferry contractors usually exact a fare only from travellers or strangers: the inhabitants of the locality who are in the habit of using the ferry in the course of their daily pursuits pay the customary *nali* per family at each harvest.

Fairs.

A list of fairs held will be found in the appendix. They are in every case merely the annual occasion on which special worship is performed before a temple of the gods. There is none of importance owing to the numbers attending in other business carried on there. The largest is that at Binsar (or Bineswar) in Chauthan. Bineswar is a title of Siva. The Kamleswar fair will be found described under the article Srinagar.

CHAPTER III.

THE PEOPLE.

IN 1821 Mr. Traill, the first Commissioner, estimated the population at 125,000. This figure was arrived at by allowing 6·5 persons to a house, the number of inhabited houses having been ascertained at the settlement. Twenty years later Mr. Batten gave a total of 131,916 persons which was reported to have risen to 235,788 at the census of 1853—a quite impossible rate of increase. The census of 1872 was conducted with greater accuracy and the figure 310,282 may be accepted as approximately correct. In 1881 the population was found to be 345,629 : in 1891 it had risen to 407,818, and at the last census, that of 1901, it amounted to 429,900. The population showed a satisfactory rate of increase in the ten years preceding that census. The increase agreed closely with what one would infer from the data of the vital statistics. These showed an annual average excess of 16 per thousand of births over deaths. The population is almost entirely rural, only 7,063 being returned as living in the towns of Srinagar, Kotdwara and the cantonment of Lansdowne. Females exceed males by 6,724, a figure which is no doubt partly due to the habit of emigration acquired by the superfluous male population in excess of that which can find occupation on the land: for while in ten years the average male births exceed the average female births by 16 per mille the average male deaths exceed the female deaths by 25, which leaves a resultant female increase over male of only 9 a year. And as the emigrants are for the most part young men in the vigour of life their removal reduces the average vitality of their sex: which may to some extent account for the excessive male mortality. Population.

Of the total population 424,648, or 98 per cent., are, Hindus. Musalmans number 4,411, and the remainder is made up of 664 Christians and a sprinkling of Sikhs, Jains and Aryas. Religions

The hills are the birthplace of the Hindu religion. The name Kumaon—in its ancient form Kurmachal—recalls the second Hinduism.

incarnation of Vishnu, when he visited the earth in the form of a tortoise. Here according to the Hindu scripture the great gods and goddesses walked and conversed with sages and ascetics who peopled the groves of the Kedarakhand. Here the Pandav brothers, whose deeds are still extolled in song and dance by the hillman, finished their earthly pilgrimage, seeking the heaven of Indra. Here in the Langur hills, which recall his name, the god Hanuman performed stern austerities. And to this day thousands of Hindus seek salvation by pilgrimage to the holy temples at Kedarnath and Badrinath.

The orthodox among the immigrant Brahmans and Rajputs worship the five great gods Vishnu, Siva, Devi, the Sun and Ganesh. The Khasiyas perform their orisons to the mountain god Siva chiefly, and the Doms propitiate not only the early local gods, who flourished before the advent of the Brahmanic dispensation, but also the multitudinous demons of a later imagination.

In Garhwal the temples of Siva greately outnumber those dedicated to Vishnu. Siva finds no place in the Vedas. He appears to have been an indigenous hill god, the incarnation of the forces of nature in their most terrible form : he is attended by goblins and demons and delights in horrid rites accompanied by human sacrifice. The montane character of the god is manifest from the universal legend which places his home at Kedarnath and from the name of his consort Parbati, " the hill-born," daughter of Himanchal, the personification of the snowy hills. The triple peak of Trisul is his trident. Siva is propitiated rather than worshipped. His priests are not Brahmans either in the south of India or in the Himalayas. Kedarnath itself is celebrated as the Khasiya temple and the offerings made to the god are not, like those of Badrinath, eaten by the pious.

Sankara Acharya.

Saivism was in the course of time superseded by Buddhism and owes its restoration to the reforming zeal of Sankara Acharya.* On the expulsion or conversion of the Buddhists he introduced the worship of the god Vasudeva or Basdeo, a form of Vishnu. He it was too, who insisted upon the efficacy of the pilgrimage to the holy places of the Himalayas. He established the Joshimath monastery and restored the temple at Badrinath, finally proceeding to Kedarnath, where he died at the age of thirty-two. The pilgrims

* Floruit circ. 7th century A.D.

number 50,000 or 60,000 yearly and come from all parts of India. Pilgrims.
Formerly devotees used to immolate themselves from the Bhairab Jhap near the temple of Kedarnath, and to the present day an occasional enthusiast wanders blindly up the eternal snows seeking the heaven of the gods. " A popular belief exists that Siva frequently makes himself visible on the the crest of the great peak and that the wreaths of smoke seen there from below are not the result of whirlwinds gathering up the finer particles of snow, but the smoke of sacrifice made by some highly favoured follower. As the holiest part of the holy Kedarakhand the entire tract comprising the upper *pattis* of Nagpur and Painkhanda abounds in places of pilgrimage, and here on the Adha-Margarshirkh-uprant all the gods and goddesses are said to assemble and engage in sports of various kinds, and the noise of their talk and laughter is heard for miles around. It is known that curious sounds are heard in these elevated regions and they have been variously accounted for. Some attribute them to the echo caused by falling trees or avalanches, and it is true that owing to the purity of the air sound is carried to a great distance." The pilgrim is awed by the presence of the gods made manifest in diverse ways. " The sweet smelling flowers and other vegetation found near the limits of eternal snow frequently overpower the traveller and combined with the rarefaction of the air cause a faintness which may be attributed to the influence of superhuman powers."* The dweller in the plains has escaped by his pilgrimage a considerable portion of the hot weather : he has seen new sights and talked with strange people : the sedentary have had daily exercise and all have led a sober, frugal life, and return to their homes feeling the better for their journey, physically as well as spiritually. To have reached the temple is itself no small sign of divine favour, for the god is said to turn back on the road those with whom he is displeased. A pilgrimage attended with such obvious benefits is naturally popular. Some sterner spirits however hold that with the improvement of the road and the establishment of dispensaries, the merit to be acquired has disappeared with the difficulties.

Durga is propitiated in July with a sacrifice of peculiar ferocity. The occasion is called Bagi or Athwar. A young buffalo is let

*Atkinson.

loose after receiving a slight wound from a sword or knife. The villagers then pursue it, hacking it until it dies. The object is to postpone the animal's death as long as possible. Any field which has received a drop of its blood is sure to be fertile. Quarrels as to the right to deal the first blow are frequent. The custom is execrated by the higher classes. The buffalo represents the demon Mahesh slain by Durga, and any suffering inflicted on her enemy is supposed to be grateful to the goddess.*

Demonism and hero-worship.

Some of the demons, heroes, or local gods worshipped by the lower classes are Ghandial, Lalu, Goril, Kalua, Bhairab, Nar Singh, Bharari, the Pandavas and the Acharis. Bhairab is now identified with Siva: Nar Singh has been adopted by the orthodox as an incarnation of Vishnu. Of the others Goril is supposed to be the ghost of the elder son of a king of Kumaon. His worship in Garhwal received a severe check at the hands of Sudarshan Sah, the last Raja of Srinagar. "One day Sudarshan Sah heard the sound of drumming and dancing in one of his courtyards. On inquiring the cause he was told that Goril had taken possession of one of his female slaves. In wrath he took a thick bamboo cane and so laid about him that the votaries of Goril declared that the deity had departed. Possession by Goril was then formally prohibited: and now if any Garhwali thinks himself possessed he has only to call on the name of Sudarshan Sah, and the demon departs."† Kalua or Kalbisht was a Khasiya neat-herd who was murdered by his brother-in-law Himmat, and became a benevolent spirit worshipped in several temples.

Sorcery.

The *gantuas* (or calculators), also called *puchhars*, claim to be the mouthpiece of the village gods. They are consulted when any one is in trouble. Being consulted they fall into a fit, and in incoherent language declare the cause of the trouble and the god who must be propitiated. In unimportant cases sacrifices are prescribed: in greater calamities the worship of the offended god for a number of days is directed. This continuous worship is called *jagar*. Men and women assemble by night at the house of the man who is to do the *jagar*: those who are supposed to be

* Unnecessary cruelty has now been prohibited by the extension to the district of the Cruelty to Animals Act, 1890.

† Holy Himalaya: E. S. Oakley.

possessed dance and rave unintelligibly. These ravings are susceptible of many constructions, one at least of which is sure to meet the case, when action is taken accordingly. The same Raja Sudarshan Sah who interdicted Goril once collected a number of these sorcerers and committed them and their books to the Ganges.

A Muhammadan population of 4,411 was recorded at the 1901 census. Most of these are foreigners temporarily sojournineq in Garhwal for the purposes of trade or labour. The lucrative carrying trade between Kotdwara and upper Garhwal has been captured by the Banjaras, Jhojhas, Julahas and Shaikhs of the Bijnor district. They bring up on their ponies sugar, salt, cloth, kerosene oil, cocoanut kernels and the like, and in times of scarcity grain also. There are also a few permanently settled Muhammadan clerks, shopkeepers and servants at Kotdwara, Pauri, Lansdowne and Srinagar; their immigration is of recent date. Others were settled in the country at an earlier date by the Raja, on whose behalf it was their duty to act as *shikaris* and to prepare food for distinguished Muhammadan guests. There are one or two villages owned by Muhammadans, such as Dhanai in Taili Chandpur and Bhairgaon in Ajmir, but in none of them, says Mr. Pauw, is there any attempt made to keep up the form of Muhammadan worship, and they are looked on by the surrounding Hindus as little better than Doms. The inhabitants of Dhanai are even ignorant of the meaning of the word *masjid*, and their whole religion is comprehended in their trade of making glass bangles. These Manihars are in fact the only indigenous Muhammadans in Garhwal. The fleeting and exotic character of the remaining Muhammadan population is made clear from the fact that out of the whole population of 4,411 only 918 women are domiciled in the district. There is now a mosque at Kotdwara and one at Lansdowne, both of very recent date. Musalmans.

The census of 1901 shows a Christian population of 654. They are chiefly connected with the American Methodist Episcopal Mission. The first station was opened at Pauri in 1865 at the suggestion of Sir Henry Ramsay, the Commissioner. Since then Srinagar, Dekhwali, Kainyur, Bhawain, Kotdwara, Dogadda, Lansdowne, Than Sanglakoti, Lohba, Beni Tal and Ramni have Christians.

been made out-stations of the mission, which has its head quarters at Pauri. A married missionary at Pauri and two ladies of the Women's Society at Gadoli, near Pauri, constitute the foreign missionary force. Six Indian ministers, about forty catechists and male Christian teachers and thirty female Bible readers and teachers constitute the native agency in the employ of the mission. The Christian community now (1909) numbers about 800 persons, children included. They are for the most part poor people, living in the villages. There is an anglo-vernacular boys' high school at Pauri with 240 students and an anglo-vernacular girls' middle school at Gadoli with 70 students.

There are vernacular schools for both boys and girls at most of the out-stations. About 180 children attend these schools. The mission is administered by a superintendent, the resident missionary at Pauri, who is appointed by a bishop of the Methodist Episcopal Church. With the exception of the two anglo-vernacular schools, which receive grants-in-aid from the Government, all the expenses of the mission are borne by the foreign missionary society of the Methodist Episcopal Church of the United States of America.

The native Christian in Garhwal seems much more respected than his plains congener. Many retain their names and the fashion of dress they affected before conversion.

Sikhs.

There are a few small colonies of Sikhs at Srinagar, Pipali in Mawalsyun, Jaigaon in Ajmir, Gum in Langur, Binjoli and Holyuni in Gurarsyun. They are now for all practical purposes Hindus and have enrolled themselves in the Negi caste. They no longer wear their hair long. The only remaining mark of Sikhism is their abstention from the use of tobacco.

Others.

Fifty-five persons profess the Jaina faith, while 64 are Aryas. They are found chiefly among the traders of Kotdwara, Lansdowne and Srinagar. The distinguishing characteristic of the Jains is their tenderness for animal life.

Hindus: Biths.

The rural population consists of Biths and Doms. The former are subdivided into Brahmans and Khas-Brahmans and Rajputs and Khas-Rajputs. The Khas-Rajputs are the Khasiyas, whose claim to be immigrants from an Aryan source is generally allowed. The Khasiyas are somewhat looked down upon by other Aryans who

have settled in the hills by way of the plains. It is supposed that they formed one of the earlier waves of invasion from the north-west.

Some conjectures as to their origin will be found in the historical chapter. The Khasiyas are contumeliously described as knowing no Brahmans, and they would appear, in the first place until the arrival of Sankara Acharya, not to have professed the Vedantic religion. After the religious cataclysm which resulted in the extermination of the Buddhists the Khasiyas adopted Brahman priests from plains settlers, or their tribal priests from performing the functions of Brahmans arrogated also their title.

The immigrants from the plains profess to have accompanied adventurers or pilgrims or to have been invited by ruling chiefs. Most of the higher castes say they came to Garhwal with the probably mythical Kanakpal, who is said to have conquered the country in the seventh century and to have founded Chandpur fort. The Khasiya ought to be distinguished from the pure Rajput by his not wearing the *janeo*: but now that there is no danger of punishment for its unjustified assumption most Khasiyas have adopted the thread. The chief exception is furnished by the Pavilas, a somewhat depressed hemp-spinning caste living in Chandpur. The Pavilas are said in their own houses to use no ceremonial forms and even to eat cooked rice which has been carried a day's journey. Beyond being somewhat looked down upon the Khasiyas suffer no particular disability. If they can afford the luxury they can marry into the best Rajput families, while in the hills, where caste prejudices are much relaxed, both Brahmans and Rajputs will eat bread cooked by a Khasiya. The minor subdivisions of Bith castes are usually known from their *thats* or lands on which they were originally settled : as the Thaplyals, from Thapli, Dimris from Dimar, Naithanis from Naithana.

The Brahmans numbered just over one lakh at the last census. Brahmans.
They are chiefly either Sarolas or Gangaris. The former are the most respected, and almost every one will eat rice cooked by them. They are by tradition the family cooks to the Garhwal rajas,* and when Raja Abhya Pal found it necessary to keep a standing army they were employed to cook food in one vessel for large messes of

* Their rivals on the contrary affect to look down upon them for following the menial profession of cooks.

soldiers. Their chief subdivisions are Kotyals, Gairolas, Khandyuris, a family attached to the civil administration of the Rajas and now supplying four hereditary kanungos, Nautyals, Maithanis, Thaplyals, Raturis, Dobhals, Chamolas, Hatwals, Dyondis, Kanyals, Naunis, Semaltis, Bijhwars, Dhuranas, Manuris and Dimris, the cooks of Badrinath. The principal subdivisions of the Gangaris, so called from their living originally in the Ganges valley, are the Ghildyals, the Dangwals and the Malasis. Other classes are the Nirolas, the Naithanis, who fill many clerical posts in Government employ, and the Joshis who, in Garhwal, are poor and insignificant, living by agriculture and astrology.

Rajputs. The Rajputs number 245,094 persons. Not less than two-thirds of the various tribes shown in the census schedule as "Thakurs" are of Khasiya origin. The chief Khasiya sub-castes are the Negis, Bishts and Rawats. These names have reference originally to the occupation of their owners. *Neg* means a perquisite and *negi* an official of the Government. *Rawat* is a ruler and *bisht* a person holding a grant of land from the Government. These names, however qualified with a local prefix, such as Gorla Rawat, Bagli Negi or Kaphola Bisht, signify high castes. This is partly due to the fact that the lords of the soil, the *thatwans* or grantees, took the local name of their fief to distinguish them from the original Khasiya class, and partly to the fact that Khasiyas of no particular caste took such names as Bisht, Rawat and Negi. The most respected of the undoubtedly immigrant high-caste Rajputs are the Sajwans, Aswals and Ghurduras, the latter of whom are related to the Tehri Raja.

Doms. The Doms, who number 67,613, are as far as can be asserted the aborigines of the country. They are found wherever the Khasiyas are found, living with them in a state even now not far removed from serfdom. The most respectable of the Doms are the Lohars, or Agaris, and the Ors, who are carpenters or masons. Others are the Bhul or oilman, corresponding with the Teli of the plains, the Auji or *darzi*, who is also a musician, the Tamta or brazier, the Chunariya or turner of wooden vessels, and the Koli or weaver.

Banias. Banias number 1,386, and belong chiefly to the Agarwala subdivision. They are found in the various small bazars throughout the district, but principally in the three main markets of

Kotdwara, Lansdowne and Srinagar. They are descended from immigrants from the plains. Some number six or seven generations in Garhwal. They have family and business connections in Najibabad of the Bijnor district.

Bhotias. The Garhwal Bhotias number only 470. They are of two classes, the Marchas and the Tolchas, inhabiting the Mana and Niti Passes, respectively. The Tolchas consider themselves the superior race and do not have any social dealings with the Marchas. The Bhotias state that they are Hindus who crossed the snowy range many generations ago.* After a long sojourn there, during which presumably they took to themselves wives of the daughters of the people, they returned to their present home between the snowy range and the border of Tibet. The tradition deserves some consideration on account of its universal acceptance. The Bhotias are not by any means identical with the present Tibetans, though their features are of an undoubtedly Tartar cast. They are a sturdy, thick-set people, often taller than their Hindu neighbours. They wear clothes in apparently many strata: the uppermost garments are a long coat of blanket-cloth or hemp reaching to the knees surmounting trousers of the same material. All are dirty in their persons; and according to Mr. Traill the skirts of their coats are used indifferently for cleansing their cooking pots and for the performance of their somewhat brief toilet. They have adopted most Hindu practices. Their dead are—by the Mana people—cremated on lake Satopant, which is to them as sacred as is the Ganges to the ordinary Hindu. The wishes of the woman too are consulted before she is given in marriage. The Mana Bhotias are concerned in the management of the temple of Badrinath, to which also gifts are brought annually by Lamas deputed from Tibet. The Bhotias live chiefly by trade across the border and with the submontane markets: their operations have been sufficiently described in an earlier chapter.

Others. As might be expected the sanctity of the district has attracted a fairly large number—much swollen at the pilgrim season—of religious mendicants. The census enumerates no less than seventeen different orders. Many of these have taken to agriculture and marriage, and, except in the peculiarities of their dress, are not

*Evidence exists of Hindu expeditions into Tibet, *vide* chap. V.

distinguished from the ordinary hillman. The Bhuksas of the Garhwal Bhabar, who number 456, are the cultivators of the Patli Dun. The Naiks (720) originated in Kumaon during the reign of Raja Bharati Chand, whose aggressive expeditions kept his soldiers so long in the field that they contracted temporary alliances with the women of the country. Their offspring gave rise to the caste of Naiks. The girls are early apprenticed to the trade of prostitution, the males acting as pimps. The caste is however not unrespectable and the males are able, by paying for the luxury, to acquire wives from Khas-Rajput families. As Captain Evatt remarks: "It is curious that a title derived from so contaminated a source should be continued to be used as that of one of the non-commissioned grades of the Native Army. The word is never used by a hillman,"- *i.e.* Garhwali sepoy—"who invariably addresses and talks of a *naik* as *amaldar*."*

Occupation. Nearly seventy-five per cent. of the total population are dependent upon agriculture for their subsistence. But compared with agriculture other occupations are of small account: 3,367 are dependent upon service in the army, which in most cases means the 39th Garhwal Rifles at Lansdowne. Iron and steel provide a livelihood for 6,148 people: the mines in the north of the district have already been noted. The forests according to the census returns afford employment to 1,172, but this must be well below the real number. It is fairly obvious that, as practically every man in Garhwal is a zamindar, he has declared himself an agriculturist, ignoring his miscellaneous occupations which are often of much more importance. Transport, as already mentioned, occupies the greater part of the Muhammadan population. Undeveloped germs of possible industries are to be discerned also in basket-making and blanket-weaving.

Habitations. The village is usually built out on an airy spur, half-way up the hill for choice, with the cultivation above and below. The site is chosen with a regard to the water-supply, which should be from a twofold source: for Doms are not permitted to use and befoul water meant for their betters. The houses are built in little streets

* The word "Naik" has in fact a double significance: in the masculine it means a master or petty officer, and in the feminine a mistress, in a good or bad sense. It is possible that the reverse of Captain Evatt's proposition is true: that the disreputable caste took its name from its originator, the petty officer.

or rows of half-a-dozen or so, and it is rare that one row is above or below the other, for in certain circumstances that would constitute *bed.** Each house has in front of it a paved courtyard called a *chauk.* The Doms and the Biths have separate quarters. Filth is the characteristic of both, though the Domana with its pigs and fowls and unwashed children is easily the more offensive. The cowsheds are in most villages also removed from the main habitation. Formerly cattle were stalled in the lower rooms of the houses, which are in most cases two-storeyed with an outside staircase. This custom is said to have been prohibited by a former Commissioner, who also introduced a few rules of elementary sanitation.† The houses are built of stone and roofed with slate. The plain two-storeyed house has two rooms on the ground floor and two upstairs. A better class is the *dandyala,* which has a verandah supported by wooden posts in front of the upper rooms. The verandah is used as a smoking or sitting-room and on hot nights as a sleeping-room. Another type of house is known as the *ewan.* Its plan is similar to that of the *dandyala* as to the ground-floor. The upper storey is divided by cross walls into three parts. The two end spaces are walled in on all sides and become rooms, while the middle space is left open in front, forming a verandah. When this verandah is ornamented with four pillars of carved wood, one being at either end and two trisecting the space between them, the house is called a *tibari.*

Fruit trees—oranges, peaches and plantains—are frequently planted at the outer edge of the courtyard, and dotted about in odd corners; while trees of other kinds are lopped to serve as a receptacle for grass or straw. There is no overcrowding as in plains villages and a man's house frequently stands apart in the middle of his land. Viewed from a distance a Garhwal village with its air of solid prosperity and large comfort is a particularly pleasing and humanising incident in the Himalayan landscape, in which from the spectator's point of view it always seems to occupy the most appropriate position.

* To be overlooked by another house is unlucky and the fact is called *bed.* But there are exceptions and conditions known only to the priests.

† Sanitation is considered rather an unnecessary fad. The people say they are inured to filth and instance the case of worms which live and thrive on cow-dung : so they argue filth, if not beneficial, at least does no harm.

Social system.

The head of the Garhwal social system is the *thokdar*, now sadly shorn of his power and prestige. His original position recalls that of the baron of the early English feudal system. He was chosen from among the principal landholders and was entrusted with the duty of collecting the revenue and maintaining order and justice. In virtue of his office and power he exacted certain peculiarly feudal dues from his immediate subordinate, the *padhan;* such as a leg of each goat killed, a *mana* (half-seer) of *ghi* in the rainy season, a basket of maize in *Sawan.* He also received two rupees on the occasion of the wedding of a *padhan's* daughter.

The *padhan* was the *thokdar's* deputy in his particular village, performing the same duties over his more limited sphere and receiving from the landholders similar manorial dues. A little lower in the social scale come the body of *hissedars* (or *khaikars* in *khaikari* villages) and below them the village serfs—the Doms. Of them Mr. Morley Smith in his "Slavery in Kumaon," dated the 5th February 1836, writes "serfs or *adscripti glebae* under the denomination of *halee* by means of whom Brahmans and other principal landed proprietors who are restricted by the custom of the country from personal labour in the fields cultivate as much of their land as practicable, and who are invariably Doms or outcastes, belonging with their children and effects to the lords of the soil, like the beasts or other stock upon it are boarded and lodged, by their owners and receive moreover a *than* of cloth for a dress every third year. On the occasion also of their marriages the master defrays the wedding expenses." Excepting that these Doms are now not bound to the land or to any one master this description almost entirely holds good to the present day, for though the bond of slavery is gone the *haliya* is as dependent on his master as ever. His emoluments have perhaps somewhat increased. He gets a blanket every rainy season and the suit of clothes more often, and at the harvest he usually receives a present of eight *nalis* or a *don* of grain. Slavery however under a respectable disguise, still exists. A Dom in want of money to pay off a debt or to meet his marriage expenses borrows what he wants from a *zamindar*, to whom he binds himself in personal service without wages, in lieu of the

interest on the loan. He lives in the *zamindar's* house and is fed by him. And the *zamindar* may transfer his bond and his bondman to a third party: or in plain words he can sell the slave he has acquired.* The contract would not of course be enforced in the courts. Generally however the status of the Dom has improved. He can now rapidly acquire wealth by working for the Government as a smith, mason, or carpenter, and is no longer so anxious to please the *zamindars*. The *thokdar* on the other hand is delining in influence and power, and his duties at present are a complete sinecure. The *padhan* has remained fairly stationary and is at the present day in a very strong position, combining, as he does, the material advantages derived from his perquisites as *lambardar* (to apply a plains term) with the prestige of the headman of the village. The dues in kind of both *thokdar* and *padhan* have now been commuted for a cash payment: but the more powerful are still able to exact them.

Some of the peculiar customs of Garhwal have their origin in the low local status of the women. The census returns show a very considerable excess of about ten per cent. of married females over married males. These figures point to the existence of polygamy, and it is a fact that every man who can afford to keep two wives does so. But a wife is a fairly expensive luxury, and notwithstanding their numerical excess they maintain their price at a fairly high level. Wives are always bought, except among a few of the very highest caste, at a price which varies between two hundred rupees and one thousand. The money is paid to the bride's father or nearest male relative by the bridegroom. Formerly the transaction was held to create a transferable right in the person of the woman acquired and she could be freely sold. Usually the marriage by sale is between castes who are able according to Hindu law to intermarry: but certain *pattis* have earned a very evil reputation for want of care in ascertaining the status and caste of the bridegroom, who is usually a plains man. The result is that for all practical purposes the girls are sold into prostitution or concubinage. This practice obtains chiefly in the Udepur *pattis*. The negotiations and ceremonies are naturally not protracted, and a hedge priest who will gabble the rites is

Social customs; marriage.

*From a note by Mr. Stowell, C.S.

always at hand. With this exception, the marriage by sale is considered respectable. Circumambulation is omitted from the ceremony, which consists almost entirely of the Ganesh *puja*.

Status of women.

In Garhwal women, except in respect of their possibilities as agricultural labourers, are held in rather low esteem and they themselves are apt to live up to their reputation. They do nearly all the field work except the actual ploughing.* They sow, weed and reap, and between harvests are fully employed in carrying in fuel and fodder from the neighbouring hills. The men will not however permit their women to work on a public road, the idea being that women must not appear too openly before men of another village.

Levirate.

As women are pecuniarily valuable, wives are not allowed to go out of the family on the death of the husband, but are made over to his younger brother. There is no ceremony: the wife is merely taken into the brother's possession. The children are considered legitimate unless the couple live apart. If there is no surviving brother a cousin or other near relative will take over the widow: and (rarely) when there is no relative at all the property of the deceased husband is transferred to an outsider on condition that he maintains the widow. The practice is regarded as rather immoral. The transferee is called the *tekua* or lover.

Tekua.

Ghar-jawain.

A man with a daughter and no son often marries her to a son-in-law who remains in the house, and ultimately inherits (through his wife) the property of the father-in-law. This is really an extended form of adoption.

Sautia bant.

An occasional consequence of polygamy is found n the custom of sautia bant. Where this custom obtains—it is not common —a man's offspring by each several wife is, for the purposes of inheritance, considered a separate entity, so that on his death partition is made *per stirpes* and not *per capita*.

Character.

The indolence of the Garhwali and his proneness to falsehood have been insisted upon by all writers.† These charges must be admitted, with certain palliations. The relations between the

* And the census of 1901 records 1,101 female field labourers as against only 809 males.

† "The hillman is often *idle*, but—with all respect to Mr. Traill's opinion—rarely indolent. Idle, from not considering he has anything particular to do, rather than because he loves doing nothing. He has more self-respect, is less wont to cringe, is a firmer friend, a more open enemy than his neighbour of the plains. But it must be confessed he is not sufficiently found of ablutions, and clean raiment."—*Calcutta Review*.

writers of these remarks and the Garhwali have usually been that of employer and workman, and the connecting link has not been labour simply but labour *plus* a certain amount of compulsion. The circumstances of the country have no doubt made statutory labour indispensable: though an evil, it is a necessary evil; but the point of view of the coolie needs some consideration. He is frequently made to work when he would much rather be doing something else: his objection is at least as much to the compulsion as to the work. There are no signs of indolence in his cultivation; while if on an errand for food he will cheerfully travel an extra ten or fifteen miles to secure a slightly more favourable price. The lies of the Garhwali on the other hand are not usually lies absolute so much as additions to or deviations from the simple truth. A very short acquaintance with him is sufficient to teach one where to look for the kernel of actuality in the shell of hyperbole. Still though a liar he is honest above the average and faithful to his trust. Theft is practically unknown. He is sober, frugal and as a rule good tempered: childishly suspicious, he is very impatient of restraint or compulsion. He has independence and a certain amount of self-respect. He is however litigious, envious of his neighbour's good fortune and objects to all innovations on principle. He is always ready to help another and his charity is reflected in the rarity of beggars. He has courage and, if not a natural soldier, has many dormant martial qualities. The Garhwali levies proved their prowess against the British in the heroic defence of Kalanga fort by the Gurkhas under Balbhaddar Thapa; while under British leadership the Garhwal regiment sustained a night attack with the utmost resolution during the frontier expedition of 1897. The testimony of Captian (now General) Evatt, formerly of the Garhwal Rifles, may be cited: "Uncomplaining even under the most adverse circumstances, good tempered and cheerful as a rule, he is susceptible of sustaining and requires, to keep him from deteriorating, a strict discipline: but the closest interest of his officers is necessary before the best can be got out of him." The Garhwali of the outer ranges is often a miserable creature: abject in poverty: truculent and offensive in prosperity or in the enjoyment of a little brief authority. In the north he is a simple, engaging creature. Dirt is the characteristic of all. And all smoke and gamble to excess,

though gambling is not such a common vice in Garhwal as in Almora.

The hillmen of lower and central Garhwal resemble in general appearance the people of the submontane districts. They are perhaps rather thinner in the face and more wiry in the body: a fat Garhwali, unless he be a retired government servant, is never seen. As one goes further north physique improves, and the blanket people of Dasoli and Badhan agreeably fill the eye. Their height seldom exceeds 5 feet 4 inches, but they are extremely sturdy, and have the best of thighs and legs. In the north loads are carried on the back: south of Pauri on the head. Strength decreases nearer the plains, because the journey from the submontane marts is shorter and less often performed. The dwellers in the *pattis* near Lansdowne are miserable weaklings so far as carrying burdens goes.

Dress. In the south of the district the people are not easily distinguished sartorially from the plains man. The small cap is characteristic of the hills, and so too, to a lesser extent, are the trousers worn by all classes. The women wear usually a tight-fitting bodice, preferably of velvet, and a loose chintz shirt, the foot of which is usually tucked into the waist in a peculiarly unbecoming fashion. Elsewhere they wear a robe which covers the breast in front, where it is supported by a corner brought over the right shoulder and attached in such a manner as to leave both shoulders and arms bare. Further north trousers are usually discarded and the visible dress of the man consists of a sheet of hempen cloth (*bhangela*) folded in a style recalling the kimono and fastened on each side of the chest with skewers chained together. They wear girdles of hemp or hair ropes. Higher still the blanket replaces the hemp for the man, while the woman wears it *sari* fashion. Women usually affect no head-covering, though they sometimes wear cloth folded like a *pagri* when working in the sun or carrying loads. The hair is allowed to hang down the back in a single plait.

In pre-British days the Doms were subjected to sumptuary laws which forbade on pain of decapitation their wearing clothes below the knee. This disability is now relaxed and the clothes of the Dom are not inherently different from those of the rest of the people except that they are usually of necessity poorer.

Among the better classes a Norfolk jacket is at present very fashionable. Trousers, usually of the same material, are worn and the costume is completed by a little round felt cap, which the more youthful and light-hearted often adorn with a rose or marigold.

Domestic economy.*

The proposition that Garhwal is overpopulated will appear somewhat extraordinary to the casual traveller accustomed to see vast stretches of forest and waste apparently capable of cultivation. Yet except in the extreme north this is the case. The population at the last census was 424,648, which gives a density of 76 persons to the square mile. Of the total area of 5,629 square miles it must be remembered that a very large portion is covered by perpetual snows which (while they feed the longer rivers) have no distinct economic value inside the district. Other portions of the area are too precipitous for cultivation: others lie above the limits of profitable cultivation: others again must be reserved for pasture or forest. The Biths have almost all the proprietary and cultivating rights over land in their own hands: which they hold either as *hissedars* (co-sharers in the proprietary rights of the village) or *khaikars* (which generally means under-proprietors). In this capacity they are known as *zamindars*, a term which in the hills means merely one who is occupied with land—a farmer. Tenants-at-will or *sirtans* are usually Doms and they hold only five per cent. of the whole cultivated area. The average area of a holding throughout the cadastrally surveyed parts of the district is 4·3 acres: and this average is only reached by including about 1,976 acres held by *padhans* and *thokdars* n virtue of their offices. The average *hissedar's* holding is rather under 6 acres: a *khaikar's* 3½ acres: a *sirtan's* 2½ acres. At the same time it is to be remembered that each holding represents about 5 people. Taking the standard rotation of rice, wheat and *mandua* and the standard outturn of 1,000lb., 800lb., and 1,000lb. on good land respectively for each, the outturn for an acre amounts to 1,400lb. for the year: thus, to take the mean of the three classes, the *khaikar* family has on an average one maund a head a month of unground grain: which equals about 25 or 30 *sers* of meal These calculations are based on the outturn of good land in good years. It is obvious that if allowances be made for bad land and reserves kept for poor years the average

*Based on a note by Mr. Stowell, C.S.

hillman cannot afford to sell any of his grain: on the contrary he frequently has to import it. Until fairly recently he used to subsist on his *kharif* and sell his *rabi,* paying the revenue with the proceeds. The revenue is exceedingly small—about one per cent. of the value of the land—and is, as remarked by Mr. Pauw, an equitable quit-rent rather than land-revenue in the proper sense of the word. It is paid except in the rarest instances not out of the produce of the land upon which it is assessed, but out of the miscellaneous earnings of the landholder. At the same time it is quite fair to make land the basis of the levy of the tax, and not to exact a poll-tax or income-tax, because the man with sufficient land to feed himself and his family occupies an infinitely stronger position than the man who is compelled to buy his food out of his miscellaneous sources of income.

Pilgrimage. The most important of these sources is the annual pilgrimage to the holy shrines of Kedarnath and Badrinath. The pilgrims enter the district by the Lachhmanjhula bridge (having already paid their vows at Hardwar), proceed along the Ganges valley *viâ* Deoprayag, Srinagar, Rudrprayag and Guptkashi to Kedarnath; they return down the Mandagini valley to Ukhimath and thence cross the hills by Tungnath to the Alaknanda valley at Chamoli. Here they are joined by some of the more prejudiced of the Vaishnavites who, omitting the worship of Siva at Kedarnath, have kept to the Ganges valley from Rudrprayag and proceeded by Karnprayag up the Alaknanda. From Chamoli they reach Badrinath, passing by Joshimath, and return by the same road as far as Karnprayag; from this place they follow the Lohba road and leave the district at Pandwa Khal. The pilgrims number about 50,000 or 60,000 in a year and take about a month to traverse that portion of the pilgrim way which lies within Garhwal. At the lowest estimate it is difficult to see how they can spend less than Rs. 10 each on their food, which the Garhwali purveys at starvation rates, eight annas a *seer* for wheat flour being no unusual charge. Wood, milk, vegetables are also supplied by villages near the road at equally profitable prices. In addition to this the more wealthy pilgrims travel in *jhampans* carried by four *jhampanis* who get Rs. 30 each for the journey. Others are carried by a single man who gets Rs. 40, while a coolie with a load can command Rs. 25

and the journey can easily be performed twice within the season. In addition to their wages these coolies also get their food. Add to this the gifts of the pious to the temples and the fees of the *pandas* and it will be seen to what an extent the cash resources of Garhwal depend upon the pilgrimage. The pilgrimage must on the most modest computation be worth not less than five lakhs a year to the inhabitants.

Military service.

Two battalions of the 39th Garhwal Rifles are stationed at Lansdowne. The regiment was raised in 1887, and designated 2nd Battalion of the 3rd (the Kumaon) Gurkha Regiment. Its composition was six companies of Garhwalis and two companies of Gurkhas. On the 1st January 1891 the regiment's name was changed to the 39th (the Garhwali) Regiment of Bengal Infantry, and from that date it has been composed of eight companies of Garhwalis, the two Gurkha companies going to form the nucleus of the present 2nd Battalion, 3rd Gurkhas. In 1892 the title was again changed to the 39th (the Garhwal Rifles) Regiment of Bengal Infantry, and in 1901 it received its present title of the 39th Garhwal Rifles. A second battalion of the regiment was raised in 1901. For many years previous to the formation of the regiment Garhwalis had been regularly enlisted in all the Gurkha battalions and several other regiments, and many Garhwalis were transferred to the regiment at the time it was first raised. The war services of the regiment began in Burma in December 1890, and from that date till February 1893 the regiment was on service in the Chin Hills (north-west of Burma) and in Lushai. It was again mobilised in 1895 at the time of the first Chitral campaign, but did not leave Lansdowne. In 1897 it proceeded on the north-western frontier campaign and took part in the operations of the Malakand field force in Swat, Bajour and the Mohmand country, and was present at the night attack on Nawagar. It then proceeded on the Tirah expedition in the same year. The 1st Battalion has been in Chitral twice, for eighteen months from April 1898 and again for twelve months from October 1905. The 2nd Battalion relieved the 1st Battalion in Chitral in 1906 and also stayed there a year. A hundred men, together with a hundred men of the 1/3rd Gurkhas from Almora, proceeded through Garhwal to Barahoti (*viâ* Niti) in November and December 1889 to prevent the ingress of Tibetans into Garhwal.

A detachment of the regiment proceeded to England at the time of the coronation of King Edward VII, when all types of the Indian Army were represented. The economic value of the regiment to the district is obvious. Not only does the monthly pay amount to a very considerable sum but the presence of the Lansdowne cantonment has greatly increased the prosperity of the surrounding villages, on which it depends for a supply of milk, butter, fuel, meat and the like. In pay alone the regiment is worth about Rs. 43,000 a month or over five lakhs a year to the district.*

Forests. Work in the reserved forests at the south of Garhwal opens in October and continues until March. Many villagers neglect their cultivation in favour of labour in the forests, for which they can get four or six annas a day.

Service in hill stations. Naini Tal and Mussooree are full of Garhwali coolies performing chiefly the office of *jhampanis*. The light work which devolves upon a coolie forming one of a team of four carrying a lady in a dandy particularly appeals to the Garhwali.

Miscellaneous. When once he has made the acquaintance of the plains the Garhwali soon loses his terror of the climate. He is to be found enlisted in fairly large numbers in the Burma military police, the Chin Hill levies, and the United Provinces police. The slightly better educated get posts in the Survey Department and are to be found anywhere between Baluchistan and Darjeeling. Trade in turmeric, pepper, ginger and *ghi* all go to swell the total cash earnings.

Present condition of the people. The population has increased to such an extent that it can no longer be fed upon the resources of the country. One result has been a great rise in general prices: but, as already explained, most of the residents eat food of their own raising and except in famine times recorded prices are unreal. Cultivation has also extended to almost its fullest limit. The country has been opened out by fair roads which have made the pilgrimage more attractive. While the birth-rate has greatly advanced in the last ten or fifteen years, the death-rate has remained stationary or slightly declined. The increase in the population has been accompanied by an increase in the sources of income such as the Garhwali regiment at Lansdowne, and miscellaneous labour in that cantonment: service in the military

* For this note I am indebted to Major H. M. MacTier.

police and labour in the hill stations. The people on the whole feed better; and though the staple is still *mandua*, the wheat which used to be sold to pay the revenue is now eaten. One rarely if ever sees a beggar. The houses are large, solid and comfortable and the great majority of the people well dressed. Mr. Pauw, the settlement officer, reported in 1896:—"In many cases it has been ascertained that the present generation have turned their fathers' houses into cowsheds, and built an entirely new village on a fresh site and on a correspondingly larger scale." The conclusion is that the spread of population, though it has contracted the indigenous resources of the people, has not depressed them, but on the contrary has driven them to find wealth beyond the boundaries of their own congested district.

Finance and money-lending.

The hillman has several varied sources of cash revenues so that he is not compelled, like so many cultivators in the plains, to work with borrowed capital. He is very careful about his seed grain, which after the harvest he stores and keeps against the next sowings: indeed it is commonly said that a Garhwali will endure three days hunger before he will eat his seed grain. His cattle he breeds himself, and as pasture is usually ample and is supplemented by many well recognized fodder trees, he seldom—even in times of famine—loses any. Objects for which he may however require financial accommodation are the marriages of his sons (for whom he has to purchase brides) and once in two or three generations the building of a new house. In the former case the accepted theory is that the bride-price received for daughters should be hypothecated, so to speak, for the acquisition of daughters-in-law, and as on the average daughters and sons have been equally distributed the father is seldom out of pocket. In the latter case it must be remembered that hill houses are extremely well built and seldom require more than reroofing; and even if a new house is necessary the builder gets the timber free from the district forests and stones and slates from the village quarries; the labour will often be supplied out of neighbourly love by his clansmen. There are naturally exceptions, and where money must be borrowed the borrower usually has to pay 25 per cent. in addition to the *ganth khulai* (or fee for loosening purse strings). Seed may be had on the *deorha* system, that is to say the seed borrowed is returned at the harvest *plus* fifty per cent. in kind.

Written bonds for money borrowed are called *tip*, and verbal bonds—usually most scrupulously observed—*painch*.

Famines. The causes of the periodical scarcities in Garhwal are admirably set forth in the government resolution on the operations of 1890: "The people in these hills live in scattered and distant villages, communication between which is always difficult and rarely better than a bridle path. Their fields produce little more than is required for their sustenance, and throughout the Garhwal and much of the Kumaon hill country there is an entire absence of those traders and wholesale grain dealers who are found in every part of the plains. The cultivators and landholders live on their own stock, of which they usually have a six-months' supply in hand. The Commissioner reported that in consequence of the deficiencies of one harvest and the failure of the next these grain stocks of the people were throughout a wide belt of country dangerously reduced: that in most parts they had money to buy food and grain: but that in the rural economy of the hills there was no machinery for obtaining and distributing the necessary supplies." It must however be remembered that in the last 18 years the Bhabar has lost many of its terrors, and that the distributing machinery is less necessary than it was, when a journey to Ramnagar or Kotdwara in May was considered fatal.

The economic history of the district, so far as it is known, mentions no universal famine—which is indeed hardly possible. The rainfall is always greatest at the foot of the outer hills and of the snowy range: that is to say, where there is a decided change of elevation producing a decided change of temperature with consequent precipitation of any suspended moisture. The northern parganas again are always liable to showers originating locally in the evaporation of the snows. The precarious tract therefore is the south and south centre of the district: and of this tract the Nayar valley and southern Chaundkot are notoriously the most unfortunate.

1867. In 1867 the spring crops in the lower half of the district were destroyed by drought. Rs. 10,000 were advanced by the Government. Grain was bought in the Bhabar and carried to certain centres for sale, chiefly for cash, most of the people having ready money in hand, though a few gave labour in exchange for food. Distress disappeared with the harvesting of an excellent autumn crop.

The records for 1877 are incomplete. The famine of that year 1877. is traditionally the worst ever known in the hills. It appears to have been confined chiefly to the tracts south of the Almora road. Relief camps were opened at Banghat and Srinagar, the able-bodied being made to do a little work on the roads. The *padhans* of the villages were charged with the duty of bringing down to the poor houses those of their people who had exhausted all their resources. The workers received daily tickets in return for a full day's task. These tickets were readily taken in exchange for grain by the camp *bania*, and at the end of each month accounts were cast, tickets whether in the possession of the *bania* or of the workers being commuted into cash by the civil officer in charge of the work. Gratuitous relief as now understood was not granted in the village though in a very few instances resourceless females of the more respectable classes who would shrink from the degradation of applying for public charity were maintained in their villages, able-bodied men being made to descend to the relief camp and carry up food for them. The Nayar river, at that time not bridged, at Banghat was a formidable obstacle to the import of grain from the plains, but the district officer was able to bring up Rs. 6,000 worth. This he stored in the early stages of distress at suitable points in the affected area, but it was not until private trade showed signs of exhaustion that the government stores were opened. The grain had been bought in the plains at prices ranging from 11¼ to 12 seers per rupee, and it was sold at cost price *plus* the cost of carriage, working out at 10¼ to 10½ seers.

Comparative prosperity was enjoyed until 1889, when indiffer- 1890. ent autumn crops, combined with a severe cholera epidemic which reduced the area under cultivation, and followed by an almost total loss of the spring crop of 1890, left the people at the end of their resources. It was decided to replenish the exhausted food stocks by grain imported from the plains through the agency of the Government. Advances were to be made on adequate security, while in order to discourage unnecessary borrowing provision was made for cash sales at a slightly cheaper rate than that granted to borrowers. In all twenty-nine thousand maunds of grain were advanced. The main dépôts were at Mohan (with sub-dépôts at Salt, Dungri, Banjadei and Churani) Kotdwara (with sub-dépôts at Dadamandi,

Banghat and Ritha Khal) and Lohba. Twelve thousand five hundred borrowers, representing about a fourth of the population of the district, were supplied with food. It was not found necessary to open works or to grant gratuitous relief.

1892. In the next year an 8-anna *kharif* harvest in 1891 was followed by a 4-anna *rabi* crop in 1892. The first measure taken to relieve distress was the distribution of cash loans. Doubts however arose as to the wisdom of this policy (though it was the result of the expressed desire of the people themselves); and about the middle of April 1892, after Rs. 13,000 had been given, grain dépôts were stocked and opened for the supply of borrowers at most of the centres adopted in 1890. Advance dépôts were opened also at Srinagar, Adwani and Ganai—the latter in the Almora district. It is noteworthy that rates at these three last dépôts were so high (owing to heavy freights) that the vast majority of the people found them prohibitive and preferred to go down to the foot of the hills for more favourable rates. In all 34,000 maunds of grain were disposed of, 2,500 only being sold for cash, while 31,500 were given as *takavi*. The submontane dépôts at Kotdwara and Ramnagar distributed more than two-thirds of the whole quantity supplied.

1896. Local scarcities in 1894 and 1895 were alleviated by small cash advances. In 1896 general famine prevailed: it was met chiefly by works which, relieving 163,437 units, cost Rs. 22,000 in wages, and by advances amounting to Rs. 9,000; while for the first time gratuitous relief was granted.

1902. In 1902 a local scarcity was met by advances to *banias* for the import of grain, advances to *hissedars* for the support of the village destitute, and the opening of ordinary road repairs at ordinary rates. The existence of famine was not recognized and the provisions of the code were therefore not enforced.

1908. In 1907 scanty and ill-distributed rains were followed by a poor *kharif*: the winter rains failed and the average *rabi* outturn of 1908 in the southern half of the district did not exceed 6 annas. The *rabi* of 1907 had not been satisfactory and, with the partial loss of three harvests, it was seen that distress was imminent. Operations began in November 1907 with the distribution of cash advances for subsistence: it was hoped that the people would go down to the submontane markets early before prices rose to famine

rates and lay in a stock for the coming hot weather. But the vast majority of borrowers preferred to buy locally from their better provided neighbours and, as in 1902, it was soon seen that cash advances would not repair the depleted stocks: it was feared that by May or June all the reserves in the district would have disappeared. Accordingly recourse was again had to the system pursued with so much success in 1890 and 1892: dépôts were opened at Kotdwara and Ramnagar and the people were invited to go down to the plains to get their food supplies. But whereas in former years it had been found necessary for the Government to import grain itself, in 1908 contractors were found to undertake the supply of grain in consideration of small advances and the hopes of vast custom. In May the depôts were advanced to Dogadda and Mohan, and the latter for a short period to Salt Mahadeo; while new dépôts were opened at Banghat and Dwarahat for the centre and north of the district. In 1890 and 1892 the object had been to place dépôts as near as possible to all tracts whence borrowers were to be expected: in 1908 it was considered expedient to test the borrowers' need by making them perform a journey of some distance and discomfort before they could get their grain, it being argued that no hillman would visit the plains in the hot weather unless he were hungry. The assistant commissioners moved about the district granting to applicants according to their needs and status advances for subsistence in the shape of orders for grain obtainable at the dépôts. The grain dépôts were opened in March and finally closed on the 15th August, after having met grain orders to the value of nearly 3 lakhs of rupees. The two base dépôts at Kotdwara (or Dogadda) and Ramnagar (or Mohan) did, as in former years, most of the work. Gratuitous relief was granted on a hitherto unknown scale, nearly Rs. 29,000 being distributed. An almost equal sum was spent over civil works, and aided works took Rs. 8,000. The famine of 1908 was in the popular estimation the worst since 1877. This view is corroborated by the expenditure and by the extraordinary prices, the cheapest food grain selling in the centre and north of the district at 5 seers to the rupee.

Language.

The language current in Garhwal is technically known as the Garhwali form of central Pahari. Many dialects are current, and in fact it may almost be said that the dialect varies with the pargana,

Samples are given by Pandit Ganga Datt Upreti in his book "The Hill Dialects of the Kumaon Division." At the same time it may be observed that colloquially the language is not framed altogether according to the pandit's pattern. Elisions are the rule and mispronunciations—according to the plains canon—very common. The few words of Persian origin are nearly all misapplied technical terms. Thus *rakm* means revenue, *mustagis* means not a complainant but a litigant, *misl* means the case itself, not the record of the case. The Garhwali speaks in a sing-song voice which much reminds the newcomer of Scotland. Most Garhwalis are bilingual and while all—even the most highly educated—use their own language in conversation with other Garhwalis, they can speak the ordinary Hindustani of the plains to Europeans and plainsmen. The script in common use throughout the district is Nagri, in which all official records are maintained.

Tenures. The system of land tenures in the hills differs radically from that which obtains in the plains. It will be sufficient here to describe broadly the Garhwal system, leaving the student of details to examine Mr. Stowell's "Manual of the Land Tenures of the Kumaon Division." There are at present three classes of interest in land, held respectively by the *hissedar*, the *khaikar* and the *sirtan*. The *hissedars* form the proprietary body. Each *hissedar* possesses an ascertained area of land. The village common or *gaon sanjait* is always undivided: it is made over to the village servants in part payment of their dues or cultivated by the headman (*padhan*) on behalf of the village community, or leased to ordinary tenants. Each *hissedar* is responsible for the payment of the revenue of the whole village. The *hissedar* is free to sell or otherwise dispose of his holding, but he can only transfer an unascertained share in the *sanjait*, not particular fields in it. The other co-sharers of the village, can claim pre-emption against an outsider and co-sharers related within the third degree can claim it against other co-sharers.

Khaikars. The *khaikar* is peculiar to the hills and deserves some notice. To understand his status it is necessary to remember that under the native kings the proprietary right in the land was vested in the sovereign and inalienable. Grants were made by the sovereign from time to time for the maintenance of deserving officers. These

grants were however often made at the expense of existing grants which were thereby resumed: but the occupants were permitted to remain on the estate, sinking into the position of cultivators called *khaikar* in distinction from *thatwan* or grantee. Mr. Batten derives the word *khaikar* from *khana* to eat and *kar* the roya revenue: that is he may enjoy the land so long as he pays the revenue. The *khaikar* also paid certain dues in addition to the revenue. This class of *khaikar* partakes therefore of the nature of the under-proprietor of the plains. A second class (called formerly *khurni* or *kaini*) was composed of new tenants settled on the estate by the grantee, who were never moved. The old name is now unfortunately obsolete and the term *khaikar* therefore denotes in one sense under-proprietors and in another occupancy-tenants: and this is naturally the cause of much confusion, not always accidental. The *thatwan* is now replaced by the *hissedar*, often a *thokdar* or *sayana* who does all he can to depress the *khaikar* of the first class to the status of the *khaikar* of the second class. Villages held by under-proprietors are usually purely *khaikari* villages: the *hissedar* has not been able to secure cultivating possession. He cannot in any way interfere with the *khaikars*, their lands, or their cultivation: all he does is to collect the government revenue *plus* a *malikana*. If a *khaikar* die without heirs, his holding reverts to the village community. His interest is heritable but for some rather obscure reason not transferable. This limitation is probably the result of the confusion of terms. The *khaikar* of the second class is merely a permanent tenant paying the revenue plus 20 per cent. malikana.

The *sirtan* is literally a tenant who pays the *sirti* or government revenue: formerly he used to pay nothing else. There are also two kinds of *sirtan*. The first consists of the descendants of old cultivators whose interest was subject to that of the *khaikars* or *hissedars*; *sirtans* of this class are probably in many cases old *khurnis* or *kainis* who failed to get their rights properly recorded. They often claim a right of occupancy. The second class is the modern tenant-at-will with no claims to permanency who cultivates by virtue of a lease. No mere length of tenure will save a *sirtan* from ejectment unless he happens to have broken up and reclaimed at his own expense the land which he holds. *Sirtans.*

Landed proprietors.

The most considerable landed proprietors appear to be descendants of courtiers or of minor officials holding appointments under the Garhwal raj. An exception is found in the case of Shib Singh Kunwar of Kansua in Sili Chandpur, whose estate amounts to 4,085 *nalis* (or about 200 acres) in fourteen villages paying a revenue of Rs. 141. Narain Dat Khanduri (the Khanduris represent the daftaris of the Garhwali and Gurkha administration) owns about 190 acres paying a revenue of Rs. 135. Sher Singh Chauhan Negi holds 100 acres in Chandpur for which he pays Rs. 80 revenue. The estates of Keshar Singh Bartawal and Fateh Singh Gorla Rawat are also situated in the Chandpur pargana near the former seat of the Rajas. Girdhar Singh Gorla Rawat of Parsoli, *patti* Gujru, owns 270 acres with a revenue of Rs. 176. Kedar Singh Bisht of Pokhri, *patti* Malla Udepur, is the proprietor of 360 acres paying Rs. 138 revenue. Other landowners of less importance are Chhawan Singh Negi of Saknoli, *patti* Talain, Rudra Singh Gorla Rawat of Bhatiya, *patti* Gujru, Bakhtawar Singh of Banasi, *patti* Gujru, and Madho Singh Narwahn Rawat of Dhari, *patti* Langur. The recurrence of the agnomens Bisht, Negi and Rawat is significant.

Thokdars.

The most important *thokdar* in the district is Keshar Singh of Malkoti in Talla Nagpur, a man who still exercises considerable influence. He belongs to the Bhartwal clan, of whom the jingling proverb says: *Adha ke Bhartwal Adha ke Aswal.* His *thokdari* rights extend over 53 villages. The Aswal family referred to in the rhyme is now represented by Autar Singh of Sila. This clan derives its origin from Asi and gave its name to the Aswalsyun *patti.* The Aswals are locally celebrated for the long and successful opposition they offered to the Gurkhas at Langur fort. There are forty-one villages in Autar Singh's *thokdari.* Shib Singh Kunwar, already noticed, exercises *thokdari* rights over thirty-three villages in Chandpur. Amba Dat Dimri is *thokdar* of forty-seven villages in Talli Dasoli, and Bhawan Singh Khaikali Negi of thirty-eight villages in Karakot.

Fee-simple estates.

The few Garhwal grants in fee-simple would appear to have been made for the encouragement of the tea industry. Mr. Nash owns a large estate at and near Gwaldam assessed at a nominal revenue of Rs. 371. In pargana Barasyun Gadoli, once

the site of the Government tea factory, is now in the possession of the Rev. D. A. Chowfin, a descendant of one of the imported Chinese tea workers. The Chopra mission grant is held by the American Methodist Episcopal Mission. The grants made near Lohba have now all passed out of the hands of the original grantees. Mohan Lal Sah, an Almora money-lender, is now proprietor of some of the larger. The Bharsar tea garden in Bali Kandarsyun is held by Mr. MacMullen.

* *Vide* page 62.

CHAPTER IV.

REVENUE AND ADMINISTRATION.

UP to 1829 Mr. Traill's had been the only court existing in Garhwal and Kumaon for the cognizance of civil suits: but in that year a number of subordinate courts were instituted. The duties of a munsif were performed at first by kanungos, who under the new system of patwaris introduced in 1819 had little or no work to do. Two were stationed in Garhwal. By 1837 there were three assistant commissioners in the province of Kumaon, and in 1839 Garhwal became an independent district under the charge of the senior assistant commissioner subject to the control of the Commissioner. So matters progressed, new officials being created and new powers delegated as the district began to develop. Introductory.

The senior assistant commissioner has now become the Deputy Commissioner. He is in charge of the whole district, the headquarters of which are at Pauri. He combines the functions of executive District Officer, District Magistrate, Collector and (except for the purposes of the Indian Succession Act, 1865) District Judge. As District Magistrate he wields enhanced powers of punishment conferred by section 30 of the Code of Criminal Procedure, 1898. As District Judge he hears appeals from the decisions of his assistants. These are now three in number, stationed at Lansdowne, Pauri and Chamoli: in revenue matters they have ordinarily the powers of an assistant collector of the first class, while they can try civil suits whose value does not exceed Rs. 5,000. The whole district forms one tahsil, the office being at Pauri. In times past there have been tahsils or peshkaris at Lohba, Srinagar, Chandpur and Kainyur. The Deputy Commissioner.

There are six kanungos whose chief duty is the supervision of patwaris: while in police matters they have the powers of an inspector. They were formerly called *daftaris*. The Gurkhas settled villages worth Rs. 1,500 Gk. a year on the Khanduri family which had the monopoly of the office. Mr. Traill resumed the grant, paying the four kanungos the equivalent of the income: they now get Rs. 31-4-0 a month each. Two extra kanungos were added by Kanungos.

Mr. Pauw in 1896: they do not belong to the Khanduri family and draw incomes of Rs. 30 a month each.

Patwaris. The hill patwari has greater powers than his plains prototype. He is in charge of a circle consisting of one of more pattis containing sometimes as many as 80 villages, and though primarily a revenue officer he has in all criminal cases the powers of a " sub-inspector of police in charge of a police station." Patwaris were introduced by Mr. Traill in 1819. Their duties are the collection of revenue, maintenance of land records, management of certain classes of forests and execution of decrees of civil courts, in addition of course to their police duties. They have also to arrange for the collection of coolies and supplies for officials and travellers. The patwari's pay is from Rs. 8 to Rs. 10 a month, but he has many more or less recognized perquisites. Like so many other institutions in Garhwal he gets a *nali* at each harvest from the zamindars in his circle: he is presented with the *bhet pithai* or *tika* (a small money present) on his first appointment, and is entitled (in the popular estimation) to his food and that of his servant when on tour, which is almost always. Naturally a patwariship is the ambitious goal of every vernacular-educated Garhwali.

Thokdars. The *thokdar* is a mere survival of ante-British times. His duties were the collection of revenue and the supervision of the *padhans* in their police work. His revenue work is now entrusted to the *padhan*. In their latter function *thokdars* soon acquired an evil reputation for corruption and incapacity, so much so that in 1856 the senior assistant commissioners of Kumaon and Garhwal drew up a joint note recommending their gradual extinction, though Sir Henry Ramsay, in consideration of the tone they gave to hill society, was afterwards inclined to change his views. " At present, " says Mr. Pauw in 1896, " the *thokdar's* duties are chiefly ornamental, though he is supposed to supervise ths *padhans* in their work as police. The office is therefore strictly hereditary and descends by the rule of primogeniture. But if there is no direct heir, one of the same family, usually the nearest relative, is appointed. The *thokdars* comprise representatives of the best old families only, and are the only men who have any pretence to be called the aristocracy of Garhwal. They are no longer however the feudal magnates of former times, and in fact are of very little more consequence than

other cultivators." *Thokdars* are exempted under the Indian Arms Act, 1878, in respect of one gun and one sword. Their dues are fixed at from three to ten per cent. of the revenue assessed on the villages within their *thokdari*. A few *thokdars* however enjoy no dues whatever.

The *padhan* or *malguzar* combines the functions performed in the plains by the *lambardar* and the *mukhia*. That is to say he is responsible for the collection of revenue in his village which he makes over to the patwari, while he is also in his position as head-man entrusted with certain minor police duties. He must always be a *hissedar*, and the office is usually hereditary. A few large villages, especially those settled by two or more different clans, have two *padhans*. He represents the village in its dealings with the Government. The *padhan* is usually remunerated from *padhan chari*—land held by him rent and revenue free as *sirtan* of the state as *hissedar*: but where the revenue of the land would not amount to five per cent. of the revenue on the whole village a cash cess on the revenue sufficient to bring the whole up to five per cent. is granted. One of the most highly prized privileges of the *padhan* is his exemption from statutory labour. **Padhans.**

The fiscal history of Garhwal cannot be better introduced than by the following extracts from Mr. Traill's reports on the method of settlement under the Rajas: "The agricultural assessment or *sirtee*, as originally fixed, was extremely light, and its rate and amount would appear to have been very rarely revised. To supply the increasing expenditure of the state numerous other taxes were successively imposed on the landholders; of these the principal were a capitation-tax and a house-tax, and the whole were summed up under the designation of *chhatis rakam* and *batis kalam*, or thirty-six items of royal revenue and thirty-two of ministerial fees. These numbers appear to have been used arbitrarily, as including the regular and contingent cesses. The total to which the landholder was liable never actually amounted to sixty-eight, though sufficiently numerous to leave him little beyond the means of subsistence. As the public demand was not regulated on any consideration of the produce, the relative proportions which they bore to each other can only be estimated by the analogy of the rates paid to the freeholders by the *khaikar* or *kaini* tenants, **Fiscal history.**

These varied in different districts from one-third to two-fifths of the gross produce."*

Elsewhere he says: "The assessment on the land was generally speaking light, the government demand on agriculture being rated at only one-third of the gross produce in ordinary lands and one-half in the very fertile. The collection was made in two forms, being imposed one year on the land and a second year levied by a capitation-tax on the inhabitants. As these however consisted solely of persons connected with agriculture, the source from which the payments were made was necessarily the same though the mode and detail of cess varied. Judging . . . from the very superior degree of cultivation and population which then existed, the sovereign's share of the gross produce of the country may be computed at . . . two lakhs (of *kachcha* rupees) for the district of Garhwal," *i.e.* about Rs. 1,60,000 of the present money. This included the whole of the ordinary revenue from all sources. The extraordinary revenue was levied in the form of a general house-tax, and of course varied in its amount according to the nature of the emergency on which it was imposed. A general record of the arable lands of the country, their extent, appropriation, &c., was kept in the office of the *daftaris*. To render these accounts more complete these officers had deputies in each district, whose duties corresponded in a great measure with those of the pargana kanungos in the plains. To defray the expenses of the establishment the *daftaris* were entitled to a percentage of half an anna in the rupee on the rent of every village; and for their own support they received grants of land in common with the other public servants." Of the nature of these records the following account is furnished: "The original records of *rakba* † in this province were very imperfect, exhibiting a mere arbitrary estimate of the *rakba* of each village, calculated according to the quantity of seed which the arable land of such village was capacitated to receive. The estimates would appear to have been formed at a very remote period and to have been never afterwards revised, notwithstanding the gradual increase of arable land. A

* This account of the fiscal history of the district is taken from Mr. Pauw's settlement report.

† Area.

further cause of confusion in the records arose from the established practice of the former governments of doubling the nominal *rakba* of a village when given in grant of *muafi*, such augmented *rakba* remaining permanently fixed in the records subsequently to the assumption of a village so granted. The adoption of so uncertain a standard is doubtless to be ascribed to the nature of the arable lands, the actual measurement of which would require greater perseverance and science than the natives of this province ever possessed . . . In calculating the extent of villages, only such lands as had been rendered capable of cultivation by terracing were taken into consideration, the waste and forest lands never having attracted the attention of former governments and no computation of them having been made. The records alluded to furnished at the same time no information as to the boundaries of villages; indeed the duties of the former mofassil officers, answering to the pargana kanungos of the plains, seem to have been confined to a mere registry of the names and *jama* of villages, and to keeping copies of the grants of the Government.

"Under the Gurkha government a complete revision of the land revenue system took place. The cess on agriculture was considerably augmented, and most of the extra demands ceased. *Maukar*, *tandkar*, *mijhari*, *ghikar*, *salamya* or *salami*, and *sonya phagun*, or tax on houses, on looms, on *doms*, on pasturage, *nazrana* and offerings on festivals were alone retained, and the only ministerial fees which remained in force were those to the kanungos, the *kamin*, and the *padhan*. The cess on agriculture was moderate, being imposed on the *rakba* at a determined rate, which was equalized in different districts according to the scale of measurement in force. All other assets and means of landholders were attained by the extra cesses above-mentioned, so that the gross demand became an income-tax on all classes connected with the land. By the injudicious mode of management introduced under the Gurkha government (that of military assignments) the resources of the country were rapidly deteriorating, agricultural produce diminished, prices were arbitrarily depressed and, a year of excessive drought supervening, the disposable capital of the agricultural classes was dissipated." The settlement had been made by a commission specially deputed from Kathmandu, and "was formed

The Gurkha revenue system.

on actual inspection of the resources of each village; but as the estimated profits of the trade carried on by the residents were taken into consideration, the assessment must be viewed rather as a tax founded on the number of inhabitants than on the extent of cultivation. On the completion of the survey a detailed account of each pargana showing the numbers, names, size and extent of the villages was submitted for the approbation of the court of Nepal. From thence a copy under the seal of state was issued to the *kamins* . . . as a standard of the revenue demandable from their respective *pattis*, corresponding instructions being issued to the officers holding assignments."

But "the absence of a controlling power on the spot rendered the arrangement almost nugatory, and the military officers set at naught these assessments at their pleasure, exacting from the people as much as they were able; the *jama* imposed soon exceeded what the country could yield, the deficiency annually increasing from the attempt to enforce the full demand." In the last year of the Gurkha rule the receipts fell considerably short of one-half the demand.

Mr. Traill's settlements.

"On the conquest of the province (in 1815 A.D.), as a temporary arrangement, the revenue of each pargana was farmed for one year to the *kamin* or *sayana*. The receipts of the preceding year, as exhibited in the kanungo's returns, were assumed as a standard, a deduction of twenty-five per cent. being allowed for the difference in currency." This constituted the first settlement.

Thereafter the settlement was made by villages. "The whole of the *padhans* of the *patti* or pargana under revision being collected, the sum total of their *jama* for the preceding period of settlement is given them for equalization among themselves, according to the present state of population and cultivation." To account for the necessity for this equalization it is explained that "a very extensive revision of the detailed assessment has been found indispensable at each succeeding settlement. The necessity has arisen from the contracted state of the labouring population, which renders it difficult for any malguzar to replace sudden casualties among his tenants. In the present state of minute village assessment the death or desertion of even a single cultivator adds greatly to the burden of the remaining tenants; where further losses occur immediate remissions are generally made to save the village from total

desertion. Such defalcations are supplied by a corresponding improvement in other estates, and as contingencies of this nature are best known to the surrounding *malguzars*, the distribution of the pargana assessment has been hitherto entrusted to the *padhans* themselves." On the *jama* of the preceding settlement having been equalized, "the signature of each individual being affixed to the result in corroboration of his assent to the justice of the estimate, the proportion of the gross revenue increase demanded from the pargana is then added to the assessment of each village at the rate of one, two or three annas in the rupee, and engagements with the *zamindars* are interchanged. As the parganas are small and the interference of native officers not allowed on the occasion, this mode is probably as fair and equitable as any which could be adopted."

The lease of the village for the term of settlement was "issued in the name of one or at most two sharers in the estate," and these tendered for and paid the revenue of the whole village—whence the name *malguzar* applied to the *padhan* of the village.

As regards the distribution of the village revenue among the various co-sharers it is said that "the village *jama* is apportioned on the several shares agreeably to the nominal interest possessed by each in the estate. If any sharer claims an abatement on the ground of deficiency in the portion of land actually in his possession, a measurement takes place, and a record is made of the quantity of land found in the occupation of each proprietor agreeably to which the future cess is regulated, but without retrospective effect. From damage by mountain torrents and from gradual encroachment on the shares of absentees inequalities of this kind are pretty general, and applications for measurement frequent." Except in case of disputes of this kind no record appears to have been made of the share of revenue for which each co-sharer was liable. It appears to have been settled by the villagers themselves.

The term of the second settlement, on account of the novelty of the arrangements made for fixing the revenue of each village, was restricted to one year (1816-17 A.D.). "The success with which this experiment was attended and the punctuality with which the revenue was realized led to an extension of the system in the third settlement, which was fixed for three years" (1817 A.D.). The fourth settlement (1820 A.D.) was also made for three years and

the remaining three of Mr. Traill's settlements (in 1823, 1828, 1833 A.D.) for five years each. At each settlement an increase in the total revenue was obtained, though on the last two occasions it was small, while the system had the merits of cheapness and celerity. Mr. Traill is said to have completed his last settlement of Garhwal "in less than a month on the road between Hardwar and Badrinath."

The extra cesses retained by the Gurkhas were with the exception of customs and *kathbans* (timber and bamboos) abolished in 1815 A.D. The abolition of the former followed in 1818, while the latter item remained till taken over by the forest department at a comparatively recent date. The settlements seem in all cases to have been based on the previous demand and collections from each village; in fact there were no other data on which an assessment could be based. For the first four settlements there were no other records of the area and extent of villages than the native ones already mentioned. In 1822 "a general measurement of the whole province was undertaken" on the same principle of estimating without actually measuring the area; more however as a record-of-rights than with any idea of regulating the revenue by the results so obtained, the Gurkha Government, "by resuming all grants to individuals," having "rendered the ancient record nearly useless." The book contained for each village a statement of its nominal boundaries, an enumeration of the *toks* of cultivation with the area of each (the varying standards that had previously prevailed being here reduced to one common unit, the *nali* of 240 square yards), and the names of the proprietors. The detailed results of the survey were bound up in separate books for each *patti*, each book containing an index of villages, and one copy was lodged in the office while one was made over to the patwari. This constitutes the record made in *samvat* 1880 and therefore familiarly known as the *assi sal*, which still on matters of boundary is regarded as the greatest extant authority.

Mr. Batten's settlement.

Until 1840 there had been no settlement for a period exceeding five years, and the assessments of 1840 comprised the first long-term settlement of Garhwal. In the beginning of 1837 Mr. Batten, a civil servant with experience of settlement work in the plains, was placed in charge of Garhwal.

The whole settlement was made without any survey whatever; in framing his assessments Mr. Batten, like Mr. Traill, took little or no account of the estimates of area made in 1822. These estimates were by no means accurate and Mr. Batten's decision not to base his assessments on acreage rent rates educed from these faulty estimates greatly facilitated the work of settlement. He was also much impressed by the casual circumstances of the villages, the quantity and quality of the land in which formed only one item in their revenue paying capabilities. He says: "No one *patti*, however small, has one natural character for all its villages, and in fact each village has a separate character according to its height on the mountain side, vicinity or distance from the forests, situation on the mountain or in the valley, and above all its climate as caused by these circumstances." He mentions also the "moral obstacles," which "would be found to separate the different mauzas . . . more rigidly even than the intervening precipices."

Mr. Batten's instructions were not to aim at enhancing the demand which had been fixed by the last of Mr. Traill's assessments, but to settle the land revenue in such a manner that no revision would be required for 20 years. A reduction of revenue was anticipated from this measure, and was in fact incurred, but not to such an extent as was expected. Mr. Batten's work was in reality a revision of revenue for each village, in the light of a personal inspection and an account, drawn up on the spot, of the number and character of the inhabitants and their sources of income and general prosperity. The method of assessment was exceedingly regular and methodical. Assessment statements in English were prepared for each village showing the area estimated at the *assi sal*, the estimated cultivation at time of settlement arranged in six classes—first, second and third class of irrigated and dry; the revenue paid by the village at the seven preceding settlements, with the fiscal history of subordinate villages included in the same lease, and village statistics. Mr. Batten was transferred to Kumaun in 1839 after he had been in Garhwal less than three years, and he was consequently unable to make the inspection of the whole district himself. Mr. Batten's assessments were thus substantially Mr. Traill's, the latter being carefully verified

however and corrected in the few cases that were found necessary. But in the other and the most valuable portion of his settlement Mr. Batten's work was all his own. He was the first to bring on record and settle the numerous conflicting claims for proprietary rights and customary dues, which had till then been floating in the air. For each village a record was made of the shareholders, with the quota of revenue due from them, the under-proprietors or occupancy tenants, and other tenants whenever discoverable. This document was known as the *fard phant*. All dues paid to *hissedars, padhans* or *thokdars* were most carefully and accurately recorded, and obligations for the future laid down. The record-of-rights was limited by the absence of a field survey, but within such limits as existed the record formed a model for all future time. Mr. Batten himself regarded this portion of his work as "the crowning good of the revision of settlement."

Mr. Beckett's settlement.

Mr. Batten's settlement was made for 20 years; and before its expiration it was decided that the next settlement should be preceded by a survey, and Mr. Beckett, the senior assistant commissioner of Garhwal, was made settlement officer.

The first actual measurement.

This settlement was preceded by the first actual measurement of the cultivated area that had ever been made. The measurements were made on the same system that had been usual in the verification of land in civil and revenue suits up to that time, and which had been applied by Sir Henry Ramsay himself as District Officer in Kumaun in 1852 to the measurement of the *sadabart pattis* of Kutauli and Mahruri. Mr. Beckett has nowhere described the actual process of measurement, and so the description given by Colonel Pitcher, Director of Land Records and Agriculture, in 1888, may be quoted: "There are two surveyors and two chainmen. Arrived at a field, the chainmen measure its longest length and take one or more measurements for breadth, according to whether the shape is regular or otherwise. The surveyors sit a little way off; and as the measurements are called out, one man enters these latter into the *khasra* and works out there and then the area by mensuration, while the other plots the measurements by aid of a rough paper scale constructed by himself on to the plan, and sketches in the contour of the field by eye; the next field is then

taken." The chain according to Mr. Beckett was "a thin rope twenty yards long, which was divided by marks easily recognized, into half, quarters and tenths." "Every field, however small, was measured and numbered, and any one may readily be pointed out by reference to the *shijra* and *khasra*. Many contained less than ten yards and some villages have upwards of 3,000 numbers in the *khasra*. Under such circumstances it is not, I think, surprising that the cost of the work is close on eight annas per *bisi*." This however included the preparation of the record-of-rights, including the *khasra*, the *muntakhib* (a record showing all the fields under the name of their cultivators), the *tehrij* (a record giving the totals of the *muntakhib* for each cultivator), and the *phant*, showing the holding of the each proprietor and *khaikar*, and the revenue and cesses payable by him. It was very seldom that the records had to be faired out. Disputes seem to have been few, and when alteration in the record was required it was made in red ink. The survey was in charge of a deputy collector, who disposed of disputes as they arose and tested the entries in the *muntakhib*. As regards the testing of the record Mr. Beckett was not quite satisfied that the work was perfect. At the settlement many objections not entered in the *khasra* were made to him, and in many cases he altered the record with his own hand. "In order that there might be no ignorance in so important a point as the record-of-rights, every cultivator was supplied at his own expense with a list of his fields. When each village was called up for settlement all mistakes discovered by aid of the *parchas* were corrected." Mr. Beckett states that "Mr. Muir, on his tour as Member of the Board, tested one or more of the *khasra* measurements and maps at Lohba, and expressed himself well pleased with their accuracy. "I have every reason to believe, after having seen a large proportion of the cases, that the measurements and record-of-rights based on the *khasra* are most satisfactory." The work was carried out between 1856 and 1861, having been interrupted for eighteen months by the Mutiny.

Settlement of *gunth*, *sadabart* and *muafi* villages.

Another feature of this settlement was the provision of a record-of-rights for the *gunth*, *sadabart* and *muafi* villages, which had been left entirely alone in all previous settlements. Mr. Strachey

in 1852 had made some measurement and settlement of the *sadabart* parganas, when under the orders of the Government the control of their revenues was transferred from the temples to a local agency, but this was revised by Mr. Beckett and some villages were re-measured. The temples and the proprietors of the *muafi* lands agreed to pay for the survey and preparation of the record-of-rights of their assigned lands, it being represented to the former that a regular settlement would remove the opportunities for embezzling the revenue, which the temple agents had formerly made such good use of.

Cesses first imposed.

Another reason for the regular assessment of the assigned and revenue-free villages was the imposition at this settlement of cesses, which had not hitherto been levied but were now imposed on all villages, revenue-paying and revenue-free alike.

The assessments.

The former settlements of Garhwal had been based chiefly on the previous demand: in this settlement that item was to a great extent eliminated. According to Sir Henry Ramsay "in the highly cultivated and agriculturally prosperous parts of the country the bearing of acreage on population and *vice versâ* was the main item of calculation, and . . . in the less populous tracts, or where agricultural assets were found to be subordinate to trading and other casual capabilities, the census afforded the main basis of the revenue assessment." This however merely concerned the distribution of the revenue. As regards the actual rates levied, they were based on the assumption "that terraced land generally with an average population was worth 0-11-6 per *bisi*." This rate applied to the total cultivation gave a sum the incidence of which on the total population was betweent seven and eight annas per head. Further land was classified at the survey into irrigated, first-class dry, second-class dry, periodically cultivated (terraced) land and waste (terraced) land. These were reduced to a common standard by doubling the irrigated area, taking one-third more than the area of first-class dry land and halving the area of periodical cultivation. Second-class land was the standard and remained unaltered, while waste was omitted altogether. For the whole district the assessable area reduced to a common standard worked out to much the same figures as the total area, and the ordinary village revenue appears to ave been obtained by applying the average rate to this reduced

area, and by applying a rate of eight annas to the population and taking a mean between the two sums thus arrived at. However the standard revenue was lowered for various causes, *e.g.* vicinity to heavy jungle, or high elevation. In order to ascertain local conditions of this nature Mr. Beckett inspected every *patti* before assessing it. The settlement was concluded in 1864. The demand was raised from Rs. 69,274 to Rs. 96,311, an enhancement of Rs. 27,037 or 39 per cent. The *gunth* revenue assessed at the same time amounted to Rs. 7,139, the *sadabart* to Rs. 3,626, and the *muafi* to Rs. 263.

Tenth settlement (Mr. Pauw's).

The tenth settlement was effected between the years 1891 and 1896 and may be treated in two parts, the settlement of the cadastrally surveyed portions of the district and that of the remainder. The following extract from Mr. Pauw's report will give an excellent idea of how it was carried out and in what particulars it differed from its predecessors The whole of the district was cadastrally surveyed with the exception of certain tracts in the north.

Cadastrally surveyed portions.

" The basis of the cadastral survey was a series of stations fixed by observations made with the theodolite, aided by trigonometrical calculations, in or near every important piece of cultivation. The traverses for this purpose were run between stations of the great trigonometrical survey. By this means the true relative position of a certain point in every important piece of cultivation was definitely fixed, however isolated it might be from the other fields of the village. The traverse survey went over the ground first, marking each traverse station on the ground by a triangle chiselled on rocks and covered with a pile of stones. The position of the traverse stations having been calculated and plotted on the scale adopted for the cadastral survey into sheets adapted to the size of each village, the sheets were given to the cadastral surveyors, who proceeded to fix thereby with the help of the plane-table supplementary stations in each piece of cultivation, so situated as to admit of chaining up the intermediate spaces. The cultivation was then measured up by a system of chained triangles, inaccuracy in linear measurement over uneven ground being easily checked by the numerous fixed points already obtained by the theodolite and plane-table." Rules were framed providing for the arrangement

of villages in assessment circles, the formation of tentative revenue rates for each class of land in the pargana or patti, prepared on Mr. Beckett's plan of reducing all land to the common standard of second class dry, the ascertainment for each assessment circle of estimates of the average value of the produce of each class of soil and the correction and adjustment of the tentative revenue rates thereby, and the calculation of standard rates for each circle. The circle assessment register was modified to show the assumed value of the produce of each village and the proportion taken as revenue, and it was provided that in the case of assessments differing more than 10 per cent. from the standard rates the special sanction of the Board of Revenue must be obtained to the proposals.

Soil classification.

Mr. Batten had adopted six classes of soil into which the nominal area of cultivated land was divided: first, second and third class irrigated, and first, second and third class dry. To these another was added by the rules above referred to, the *ijran* or *katil* land (cultivated every third or fourth year,). These seven classes constituted the assessable area. The unassessable area was classed as old fallow, *i.e.* fallow of more than three years' standing, culturable waste and unculturable waste.

The *zarb bisi.*

The assessments throughout the cadastrally surveyed area of Garhwal were based on the application to the number of *zarb bisis* in the village of the standard revenue rate for the circle. The number of *zarb bisis* is found by multiplying the number of *bisis* of each class of assessable land by a constant factor and adding up the products. The unit of cultivation was assumed to be one *bisi* of second class dry land. Irrigated land was held to be three times as good as second class dry land: its factor was therefore three, that is to say one *bisi* of irrigated land was computed at the value of three *zarb bisis*. The factor for first class dry land was by a similar calculation taken at 1½, and so on. It was thus possible by means of a survey and a brief calculation to arrive at the comparative value in *zarb bisis* of different villages, *pattis* and parganas.

Mr. Pauw had already demarcated a number of assessment circles for which he fixed standard revenue rates at so much a *zarb bisi*, and he had already been instructed to raise the total assessment

of the district by 50 per cent. The sum obtained by the product of the circle rates into the total number of *zarb bisis* is known as the revenue at standard rates, but this sum was not always adhered to as the demand was often affected by various local conditions. It was first decided by a general estimate of the comperative resources of each pargana what relation the new revenue should bear to the old; in some it exceeded by more and in others by less than 50 per cent. The next step was to distribute the enhanced revenue over the villages so that each should pay its just quota of the increase. This was affected by a consideration of the number of *zarb bisis* in each village and its classification by the assessment circle, modified as the special circumstances of each seemed to demand.

Non-cadastrally surveyed portions. The assessment.

It was decided that no hard and fast rules could be laid down as to the conduct of the settlement of those regions which had not been surveyed. Much was left to the discretion of the settlement officer. The basis of the assessment was the determination by the settlement officer of a definite sum as the new demand for each *patti*. Once fixed this was never altered, and the new demand of the various villages of the *patti* had to be so arranged that the total amounted to this determined sum—neither more nor less. The *patti* assessment was fixed with regard to all available statistical and local information. There were also figures for the increase of population since last settlement which formed some guide to the progress made. These figures also formed the basis of comparison with *pattis* of the cadastrally surveyed tract and between *pattis* of the non-cadastrally surveyed tract *inter se*. The number of cattle in each *patti* was also compared, and the bearing of each of these factors on one another was also considered. The enhancement was usually determined in the form of a percentage on the old demand. After this sum had been determined the *padhans* and *thokdars* of the *patti* were assembled at some convenient place, either in the *patti* or on the borders of it, and they were given the amount to divide up among themselves. This they hardly ever succeeded in doing, except in cases where the distribution was practically made by the patwari. The assessment was usually distributed among the villages in a *panchayat* of *malguzars* with the *thokdars* as assessors, while the settlement officer finally fixed the demand.

In its resolution on the operations the Government admitted that the introduction of an elaborate system of cadastral survey into the villages of unsophisticated hillmen was a costly mistake. The assessment rules were much too refined and the statistics compiled were of little value. In all the settlement cost nearly 5½ lakhs, while the increase of revenue obtained was only Rs. 50,000, bringing the total real demand up to Rs. 1,65,727. It was chiefly on a consideration of these financial results that the Government abandoned the idea of surveying the Almora district previous to settling the revenue and ordered a return to the rough but effective method of Messrs. Batten and Beckett.

Malla Painkhanda.

Malla Painkhanda comprises the Bhotia villages in the Mana and Niti passes and is in all particulars different from any other part of Garhwal. It is situated behind and to the north of the great chain of snowy mountains. The country is under snow between November and May and consequently produces only one crop. The people subsist chiefly on their profits out of the Tibetan trade; while those inhabiting the Mana pass do a good business in attending to the wants of the pilgrims to Badrinath, their chief income being derived from the sale of fuel. The cultivation of the twenty-three villages now covers about one thousand acres between 6,500 feet above sea level at Rini and 11,500 at Niti. The fields are either roughly terraced or are mere forest clearings intermittently cultivated. The position of the pargana north of the snowy range however implies a very light rainfall, so that there is little difference in the productiveness of terraced and unterraced land. In the Mana pass only *chuwa* and *phapar* are grown. In the Niti pass these crops are supplemented by wheat, barley and mustard in irrigated land. Malla Painkhanda, or the greater part of it, appears to have been originally colonized from Tibet. "Personal appearance," says Traill "language, religion, customs and traditions all unite in pointing the origin of the present inhabitants to the adjoining Tartar province of Tibet." The conquest of Malla Painkhanda by the Garhwalis took place about four centuris ago, but "in becoming subject to the cis-Himalayan power the Bhotias were by no means withdrawn from their allegiance to the parent state, but still continued to acknowledge the supremacy of both—an anomalous state of subjection which their paramount

interests in continuing to be the medium of commercial intercourse between Hindustan and Tibet will tend to perpetuate."

Fiscal history.

In 1825 the revenue demand of the Tibetans consisted of *sinh thal* (land revenue), *ya thal** (tax on sunshine) and *kyum thal* (tax on the profits of trade). The revenues exacted by their Hindu conquerors from the Bhotias were still heavier. The Mana villages however were from the first assigned to the Badrinath temple. But in the Niti pass the assets made available to the government demand comprised the profits of trade, *tandkar* or loom tax, produce of agriculture, produce of jungles (roots and drugs), musk, *kota baz* (hawks) and *bhaunra* or wild bees' nests.

" When the Gurkhas conquered Garhwal the resistance on the part of the Bhotias, joined to an exaggerated reputation for wealth, marked them out for peculiar exactions." The revenue demand was raised from the Rs. 1,200 assessed by the Rajas to Rs. 7,000, and it was not until the Gurkhas had almost ruined the country that they reduced it to Rs. 4,700.

In 1815 the British conquered the district and tentatively maintained the existing demand, which was however reduced to Rs. 1,016 as the result of a more favourable rate of cash conversion of dues hitherto paid in kind. "In the year 1818" writes Mr. Traill "a general abolition of the customs and transit duties throughout the province took place : the tax on the profits of trade hitherto levied from the Bhotias, as partaking of the same nature, was included in that measure : a partial remission on the same account was made in the *jama* of some of the lower villages, while both in these and in Bhot the items of musk, bees' wax and hawks were struck out of the available assets." These remissions reduced the demand to Rs. 436.

Mr. Batten, although he considered the basis of taxation illogical, maintained Mr. Traill's assessment in almost all cases. Mr. Beckett, the next settlement officer numbered the cattle and estimated the cultivation, but appears like Mr. Batten to have based his calculation on the general capabilities of the respective villages. He raised the demand to Rs. 826.

* The *ya thal* probably originated in the migratory habits of the Tartars, who during the winter remove to the warmest situations :—Traill.

The present settlement.

The Bhotias claimed from Mr. Pauw, the last settlement officer, reduction of revenue on the ground that their trade had decreased, and that they ought not to be taxed on their cattle as they pay grazing-fees to the forest department when they journey to the foot of the hills. Mr. Pauw, while remarking that these fees are paid on sheep and goats alone, considered that a fair case for reduction on this account had been made; while he doubted if trade had contracted appreciably. On the latter subject he remarks: "It appears that the Tibetan government has within the last eight or ten years reduced the dues payable by the Bhotias, though whether in consideration of hard times or not it is impossible to say. The former customary load of the tenth sheep-load has in the Niti pass been reduced to two sheep-loads for each trader on the first journey in the year and one on each succeeding journey. No land revenue is now paid by villages in the Niti pass.* Mana pays Rs. 44 as land revenue and the load of each tenth sheep. The same used to be paid by Pandukeswar: but, as very few people from that village now trade, the land revenue has been reduced to Rs. 25." The Tibetans themselves profess to treat the Mana people more leniently because they are their subjects, a view which is supported by the payment of land revenue.

Assessment of the Niti pass.

Mr. Pauw decided not to tax the trade but to make the assessment only on the third and fourth items of the old list, as had been done by Mr. Traill, *viz.* produce of agriculture and produce of jungles. "The latter, consisting originally of a royalty on wild roots and drugs, was made to take the form of consolidated grazing-dues on the excess of cattle in any village over the number necessary for cultivation. The assessment of the first item was made by applying rough revenue rates to the estimated cultivated area of the village." The land revenue was thus roughly fixed, and the assessment of the consolidated grazing-dues was next settled. Mr. Pauw assumed that for the cultivation of land paying one rupee revenue five oxen were necessary. He also assumed four sheep or goats were equal to one cow, ox or ass, and eight sheep or goats were equal to one *jubu*, yak, horse or buffalo. Deducting the free allowance of five oxen or their equivalents for each rupee of revenue assessed on the holdings,

* But as related elsewhere (p 42) the Niti people are subjected to all kinds of vexatious demands inside Tibet itself.

he fixed the grazing-fee exigible at one rupee for forty sheep or goats, ten cows, oxen or asses or 5 *jubus*, yaks, horses or buffalos. The total assessment amounted to Rs. 593.

The Mana valley. The assessment of the Mana pass was made on somewhat different principles. Here except in the Mana village the people are ordinary Hindus. The straggling nature of the cultivation and the absence of cattle in the lower hills obscured calculations, and in the result it was thought safer to retain the expiring demand of Rs. 269. All the villages in the pass are *gunth* and are attached to the service of the Badrinath temple.

Waste land. In Garhwal land which has been measured at the settlement and recorded as the property of individuals is called *nap* land: unmeasured land is *benap*: land which was previously measured but was found out of cultivation at the last settlement was recorded as the property of the Government: it is commonly known as Kaisar-i-Hind land. Unmeasured land and Kaisar-i-Hind land whether forest or waste, have always been regarded as the sole property of the Government. But in 1880 *Samvat* Mr. Traill made a great measurement of all land of every description in the district, fixing nominal boundaries for all villages and including inside the boundaries cultivated land, forest and waste: though he affirmed the principle of the state's sole right in uncultivated land. These are called the *assi sal* boundaries, but are supposed to have existed from time immemorial. They represent approximately the area over which the village with the acquiescence of the state exercises its rights of pasture and wood cuttting. Waste land is brought under cultivation in two ways: if the land the pioneer wishes to bring under the plough is of comparatively small extent and adjoins existing fields, he (with or without the permission of the Deputy Commissioner) extends his cultivation into them. Where the land is remote and large in area he makes formal application for a *nayabad* grant. *Nayabad* is *naya abad: abad* in the hills signifies cultivation. Such a grant confers on the grantee the fullest proprietary rights. The *nayabad* question is an extremely difficult one: the adjustment of cultivation to population on the one hand and of cultivation to its necessary adjuncts, pasture and forest, on the other, needs particularly delicate treatment.

Gunth. The term *gunth* signifies assignments of land revenue made for the maintenance of the great temples of Garhwal. Such assignments were under the Hindu Rajas very large, and nearly all were upheld by the Gurkhas and the British. The value of the assigned revenue is now Rs. 10,651. The more powerful temples have from time to time arrogated to themselves the most extensive rights in *gunth* villages. But the present position is, according to Mr. Traill, that the grants are merely assignments of revenue and convey no proprietary right in the soil; and this opinion was confirmed by a Government order in 1895, which declared that the temples had no right over waste land in *gunth* villages.

Sadabart. *Sadabart* is the term applied to an endowment provided by the land revenue of assigned villages, originally for the purpose of providing with food indigent pilgrims visiting the shrines of Kedarnath and Badrinath. The Kholea estate was granted by the Srinagar Raja, while the Raja of Nepal in 1813 made over lands in Dasoli, Parkandai, Bamsu and Maikhanda. The surplus funds were devoted to works of general utility to the public and the pilgrims, such as roads, bridges and dharmsalas. These trusts were at first administered by the Rawals of the temples until Mr. Traill took them into his own hands. In 1850 the management was placed under a local agency, but the system proved a failure and the control of the funds was transferred to the district officer, with whom it still remains. At present the entire proceeds of the trust are devoted to the upkeep of dispensaries on the pilgrim way, which began with the establishment of a dispensary at Srinagar in 1850. Poor pilgrims, *bairagis* and *jogis* still find subsistence from private *sadabart* funds collected and distributed by the "*kali kamliwale*" fakirs. To these funds many merchants also set apart a percentage of their grain. But no self-respecting man will have recourse to this charity if he can possibly avoid doing so. This was curiously illustrated during the scarcity of 1908. With a view to the husbanding of the grain stocks of the country the pilgrimage was stopped, and the private *sadabart* fund was therefore diverted to the relief of distress within the district. There was no general rush for the grain as might have been expected: only the very poorest consented to avail themselves of the opportunity of free food.

Of the good work done by the dispensaries Mr. Beckett writes: "Before their erection such pilgrims (*i.e.* the sick) were left by their friends, whose means did not permit of *their* halting, to die. A great many of them got swollen legs from the bite of a small fly. Now they are fed and treated at the dispensaries and on recovery many, instead of going to Badrinath, return at once to the plains. Before these branch dispensaries were instituted these unhappy creatures, unable to move from swollen legs, were left to die of starvation." At Mr. Beckett's settlement it was found that many *sadabart* grants had been appropriated by the temple managers and the proceeds devoted to the upkeep or embellishment of the temples. This has been rectified, and under the present system such misappropriation can never again occur.

Police and crime.

Ordinarily police duties are performed by patwaris and kanungos: but there are thanas at Srinagar, Kotdwara and Lansdowne, and during the summer season at certain places along the pilgrim line. The regular force is in the charge of the superintendent of police in the Kumaon division, stationed at Naini Tal. Crime is practically non-existent. The Pauri jail rarely holds more than eight or ten prisoners, though this low figure is to a certain extent explained by the fact that long-term prisoners are deported to plains jails. Still indigenous crime has never been great. After the British occupation the slave trade initiated by the Gurkhas was stopped, though existing slaves were not liberated. And the licence whereby an aggrieved husband could after notice to the civil power seek out after any lapse of time his wife's paramour and kill him was revoked, the act being treated as murder. The banditti who harried travellers and traders crossing the Bhabar were extirpated: though the tradition still remains and dacoities and cattle-thefts are by no means unknown now.

Excise.

The excise system in force in Garhwal, as far as country liquor is concerned, is what is known as the out-still system. That is to say the privilege of manufacturing spirit at a selected shop is sold by auction to the highest bidder. Opium and *charas* are retailed in a few of the larger bazars. But so far the hillman has not developed a taste for stimulants. The income derived from excise has been trebled in the last ten years. Practically speaking the receipts depend chiefly on the sale of spirits and drugs along the

pilgrim route: for though the pilgrims are supposed to abstain, the coolies who carry their effects indulge freely. The Bhotias are allowed to brew their own liquor within their own pargana of Painkhanda, but they are not allowed to sell it or to consume it outside these limits.

District board.

There are fifteen members of the district board. The Deputy Commissioner is chairman and the sub-divisional officer at Pauri is secretary. Five of the members hold their seats by virtue of their official position and the remaining ten are nominated by the Government. Its chief functions are the care of education, health and communications.

Education.

The board is assisted professionally in its educational administration by the inspector and assistant inspector of schools for the Kumaon division, and employs one deputy inspector and two sub-deputy inspectors. There was until recently only one high school—that at Chopra, belonging to the American Mission, towards which the committee contribute a grant-in-aid. The anglo-vernacular school at Srinagar was however raised to the high school standard in 1909. There are five middle vernacular schools—at Matyali, Kanskhet, Pokhra, Srinagar (about to be removed to Khirsu) and Nagnath. Primary schools teaching to the upper standard number thirty-seven; sixty-nine teach to the lower standard only. Very fair progress is being made in education considering the great physical difficulties in the way. Inspection is necessarily intermittent; and while the numbers of children receiving education constantly rise, the standard does not rise proportionately. Few of the teachers have any taste for their work. They have had education themselves and consider it a valuable asset to be exploited in pedagogy until something better comes in the way—a patwariship for instance. Still a few teachers are sent every year to the normal school at Almora for professional instruction, while training classes are held at the Pokhra and Nagnath schools. It is satisfactory to be able to note that the number of educational establishments has been doubled and the attendance trebled in ten years. Female education can hardly be said to be popular: as the hillman says, girls are too valuable to waste their time over book-learning: they have plenty of work in the way of carrying in grass and wood. At the census of 1901 the

proportion of literate persons to the total population was 639 in 10,000 : a figure that is surpassed only by Dehra Dun. If figures for males alone be taken Garhwal is easily first with 1,284. (The high proportion of educated females in Dehra Dun is of course due to the presence of European settlers there.) There can be little doubt that the taste for education is due to pressure of population. Agriculture alone can no longer support the Garhwali, and he has recourse to service and therefore to education.

The medical charges in Garhwal are met by the district board fund and the *sadabart* fund. From the latter are maintained the pilgrim hospitals at Kandi, Srinagar, Ukhimath, Badrinath, Chamoli, Joshimath and Karanprayag. There are district board dispensaries at Pauri, Banghat, Kotdwara and Bironkhal, and a travelling camp dispensary (the first of its class in the provinces) has been recently established. The civil surgeon, who is stationed at Pauri, is in charge of the medical work. He has an assistant surgeon at Srinagar and hospital assistants at all the dispensaries. Medical.

Malarial fever is the commonest disease and causes about 60 per cent. of all deaths. It is most prevalent in the Bhabar and the low hot valleys of the Ganges, Nayar and Mandal rivers. Bowel complaints account for another 35 per cent. Small-pox is not prevalent, Garhwal being the best vaccinated district in the province. Epidemics of cholera are unhappily not rare. In 1892, 5,943 died of this disease ; in 1903, 4,017 ; in 1906, 3,429 ; and in 1908, 1,775. This disease is no doubt often introduced by pilgrims : but that explanation does not account for the visitation in 1908, when the pilgrimage was closed. The end of the hot weather and the beginning of the rains are the seasons most favourable to the development of cholera. When once the disease gets a start it spreads with terrible speed. Bodies are left unburied by the banks of streams which carry the infection to villagers, who drink the water in lower reaches. Stricken villages are deserted, corpses being left to rot in houses and in many cases the sick are left to die uncared for. Diseases.

Mahamari or hill-plague is the same disease as the Egyptian or Levantine plague ; but it was only in January 1902 that the identity of the two diseases was bacteriologically established by Major Chaytor White, who was sent to investigate an outbreak *Mahamari.*

at Buransi in Choprakot. The earliest record dates from 1823 when according to the tradition plague broke out at Kedarnath; the Rawal having deviated from the orthodox rites in the performance of *hom,* perished from the disease with his assistants. Dr. Renny investigated the circumstances of an outbreak in Choprakot and Chauthan in 1855. He writes: "*Mahamari* is a malignant fever of a typhus character, accompanied by external glandular tumours, very fatal and generally proving rapidly so in three or four days: it appears to be infectious, and is believed not to be contagious. The usual symptoms of fever are present, and might be enumerated in every variety: but the cases observed were too few to rest upon them the diagnostic marks of the disease upon all occasions. Heat of skin, accelerated pulse, lassitude, chilliness, nausea, thirst, a white and furred tongue were all noticed. Headache was prominent in all, increasing to the most acute pain with blood-shot eyes: and it is supposed the brain will be found the most morbid seat of the disease, though all the organs may no doubt partake of the highly septic quality of the pestilence.

"The external swellings, suddenly rising, indolent and not very painful, are the most characteristic proofs of the malady; glandular swellings in various parts of the body, the groin, axilla, neck and even in the legs are described as occurring. But in the cases witnessed recently, as well as those of the few who had survived an attack, the tumours or buboes, if they can be so called in that state of incomplete inflammation and suppuration, were only in the groin, a long diffused tumefaction with an enlarged gland in the centre of the size of a nut: they are looked upon by the natives as the most deadly sign of the distemper, and are really to be considered an unfavourable prognostic."

Dr. Renny suggested filth as the cause and noticed that the healthy fled at once (on an outbreak), leaving the sick to die. It is interesting to note that the Commissioner, Mr. Batten, remarks: "Upper India occupies the plague latitudes of the world . . . its escape from the visitation is supposed to be owing to its peculiar heat." Outbreaks occurred at Kedarnath in 1834 and 1835 and at Lohba in 1846 and 1847.

Mahamari is endemic in Kumaon and only once has it been shown to have spread to the plains—in 1854—when Kashipur,

Moradabad and Rampur were all attacked with a similar disease (Dr. Stiven's report, 1854). From 1823 to the present day small epidemics, confined to one or two villages, have appeared with never-failing regularity every three or four years, carrying off half the population of the village attacked. The disease appears also sporadically from time to time. The mortality is greater than in the Indian or Hong Kong disease, about 96 per cent. dying of it. It is present in all three forms—pneumonic, septicæmic and bubonic—and an outbreak is nearly always preceded by a mortality among rats. The hill people know this and voluntarily evacuate a village on the rodents becoming attacked. Though living in an ideal climate and in picturesque surroundings, the Garhwali is indescribably filthy in his habits. Moreover hill people dying of epidemic disease are not burnt, as is the custom elsewhere, but adults of both sexes are buried and four months later their remains are exhumed and burnt.* To these two reasons, as well as to some other unknown factor, the periodical recurrences of this fatal disease may be ascribed.

Sanjar is the name applied by the hill people of Kumaon to designate a disease with continued fever without the accompaniment of swellings. Where swellings (buboes) occur, the name *mahamari* (hill-plague) is usually applied. *Sanjar* in at all events one of its forms corresponds to famine or "relapsing fever," and the spirillum (S. obermeiri) has been found in the blood of those suffering. The word is often loosely applied to a contagious fever of any kind unaccompanied by swellings. It might therefore be applied erroneously to cases of septicæmic plague in which there is no external bubo. It is not so fatal as hill-plague, only about 20 per cent. dying, and is not so much feared. An outbreak is not preceded by a mortality among rats, though this is also true of some outbreaks of hill-plague. Properly speaking then *sanjar* is "relapsing fever," and it is only through a faulty diagnosis that the term is otherwise employed. The disease is due to privation and want of cleanliness and is prevalent in years of scarcity and famine. *Sanjar.*

Leprosy is somewhat common in Garhwal, and an asylum for the lepers of British and native Garhwal was opened at **Leprosy.**

* This practice also obtains in cholera epidemics.

Srinagar in 1901. It is superintended by the assistant surgeon and has accommodation for about thirty pauper lepers. The Tehri darbar contributes towards its maintenance. Goitre is very common, especially in the north.

CHAPTER V.

History.

Materials for the reconstruction of a connected history of what is now the district of Garhwal are scanty, vague and ill-authenticated. All the known authorities were collated by Mr. Atkinson, and the history he compiled is the result of wide research, patient observation and brilliant conjecture; and but for considerations of space it might well have been reproduced almost in full. The brief account of Garhwal that follows is, it is premised, taken almost entirely from Mr. Atkinson's book. Introductory.

Garhwal has from very early times, under the name of Kedara-Khanda or the region of Kedarnath, been a land esteemed holy by the Hindus, and the ancient Sanskrit classes, as well writings of a later date contain may references which may be briefly surveyed with a view to reconstructing the state of Garhwal before the period covered by authentic history. The Vishnu Purana, the Mahabharata and the Varahasanhita mention a number of tribes dwelling on the borders of Bharat, and of these the Sakas, the Nagas, the Khasas, the Hunas and the Kiratas are to be connected with the Kumaon Himalayan region. The last named may be dismissed with the briefest notice; for, whatever their early importance, they have now disappeared entirely from Garhwal, though they are doubtfully identified with the Rajis, a rapidly dwindling tribe of foresters living in Askot of eastern Kumaon. The Sakas—the Sacae of classical writers, and the Indo-Scythians of modern ethnographers—are pointed out by local tradition as one of the earliest ruling races in the Kumaon hills, and the royal houses of Garhwal, Doti and Askot claim to be descended from the famous Salivahana. The claim will not perhaps bear careful scrutiny; but it is safe to assert that it would never have been advanced if the Sakas had been unknown in the regions once subject to these dynasties. Of the mysterious race called Nagas there are many traces. They were apparently a race to whom the hooded Ethnography.

snake was sacred and later legends have identified the members of the tribe with their emblem. Mr. Wheeler in his History of India writes of them—

"In Garhwal we have traces of the Nagas in the names of pattis Nagpur and Urgam* and the universal tradition of their residence in the valley of the Alaknanda. At the present day Seshnag is honoured at Pandukeswar, Bhekal Nag at Ratgaon, Sangal Nag at Talor, Banpur Nag at Margaon, Lohandea Nag at Jelam in the Niti valley, and Pushkara Nag at Nagnath in Nagpur." The snake is worshipped at Nagdeo near Pauri, while many villages have a Nagraja *tok* which takes its name from the temple of the snake.

The name Khasa is of very wide significance. It is by a rather bold speculation traced from Mount Caucasus and the Caspian sea in the west as far as the Khasia hills in the east; and though there is no reason to acquiesce entirely in the theory, the names of Kashmir and Khasdes (an ancient synonym for Kumaon) may with tolerable certainty be accepted as evidence of the importance of the Khasiyas before they yielded place to the more agile genius of the Brahman and Rajput immigrants from the plains. Mr. Atkinson's conclusion is that the Khasiyas were, like the Nagas, a very powerful race who came at a very early period from that *officina gentium* Central Asia. The account that the modern Khasiyas give of themselves tallies in all respects with the indications from other sources. They always profess to be Rajputs who have fallen from their once honourable position by the necessity of living in a country and in a climate where the strict observance of the ceremonial usages of their religion is impossible. The Khasiyas are to this day the most important people numerically in the hills, though the line of division between them and the immigrants from the plains is daily becoming fainter.

It may fairly be assumed that in the dark ages Garhwal was ruled by a large number of petty princes, and indeed at a later date it is said to have assumed the well-known form of a *baoni* or federation of fifty-two states. Whether these chiefs ever owned the suzerainty of the more powerful of kings of the plains is not so certain. Local traditions, the reports of early annalists and ancient inscriptions

* From Uragas, a sub-division of the Nagas.

indicate the existence of two or three local principalities of some importance. First among these may be mentioned the Brahmahpura of Hwen Tsiang, the Chinese traveller (629 A.D.). The kingdom must have been situated somewhere in Garhwal, though the site of the capital cannot be fixed with precision. It may possibly be identified with Barahat in Tehri Garhwal; but whether the identification be accepted or not, it is of interest to note the existence of an ancient inscribed trident erected at Barahat by a prince of the Malla line. There is a similar trident in front of the Gopeswar temple in the upper Alaknanda valley and an ancient inscription was found in the same place. The two latter monuments were set up by Aneka Malla, but the former has not been completely described. From the Nepal annals cited by Mr. Atkinson, it would appear that Aneka represented the Nepalese royal house of Malla, and conquered Gopeswar and the surrounding country towards the end of the 12th century A.D. The rule of the Mallas was not long-lived, for they have left with the exception of these inscriptions not a single trace of their domination behind them. The Katyuras, whose name is still perpetuated in the Katyur valley in the Almora district, were according to the local tradition for many years the ruling family of Kumaon. The first capital was Joshimath anciently called Jyotirdham, in the upper Alaknanda valley. Ancient inscriptions still extant in Pandukeswar and in certain places in the Almora district, corroborated by the evidence of local traditions, prove that the kingdom of the Katyuras extended from the snows to the foot of the hills and from beyond the Ganges to the eastern Ramganga; and these limits probably somewhat understate the case. The cause of the emigration of the Katyuras from their first home to the Katyur valley is told in a legend which will be found related at length under the article Joshimath in the directory. According to the local legend the Katyur dynasty came to an end with Birdeo, a foolish and tyrannical monarch; and on his death the kingdom was divided, and as far as can be ascertained the paramountcy of the Katyuras in upper Garhwal vanished.

Garhwal Rajas.

Of the nature of the rise to suzerainty of the Pala dynasty, which in later days ruled the whole of what is now British and Tehri Garhwal, there are few indications. The earlier history depends for its authority almost entirely on traditions of a much later date;

Mr. Atkinson gives four lists of Garhwal rajas. The first was obtained by Captain Hardwicke in 1796 from Raja Pradhaman Sah, then reigning in Srinagar. A second is that accepted by Mr. Beckett, s ttlement officer: the third is taken from Mr. Williams's book* on Dehra Dun: while the fourth was supplied to Mr. Atkinson by an Almora pandit. These lists are not by any means identical, especially as far as the earlier kings are concerned: and while it may be said that the early chronicles of Garhwal are the chronicles of her kings, the vague and unsatisfactory character of the early history of Garhwal is well reflected in these four discrepant lists of her rulers. It must not however be imagined that the ancestors of the Srinagar rajas were anything but petty chiefs. It was not until the reign of Ajai Pal (1358 to 1370) that they acquired the hegemony of the country by subduing the indigenous Khasiya Rajas. Before his time every glen had its own chieftain, the whole possibly forming a loose confederacy under the protection of the powerful Scythian kings of the country near Indraprastha, the modern Delhi.

The first of the Garhwal rajas concerning whom there is any precise tradition is Son Pal, who is said to have had his head quarters in the Bhilang valley. Numerous Khasiya rajas owned allegiance to Son Pal, who held sovereign sway over all western Garhwal and commanded the pilgrim route to Gangotri. A cadet of the Panwar house of Dharanagar came on a pilgrimage to the holy places in the hills and visited Son Pal on his way. The latter had no son and was so pleased with the young prince that he gave him his daughter in marriage and part of pargana Chandpur as dowry. The name of the Dharanagar prince appears to have been Kadil Pal. The story of the Panwar prince resembles in many respects the tradition regarding Som Chand in Kumaon, mentioned in the Almora gazetteer. Ajai Pal, a descendant of Kadil Pal, transferred the seat of government from Chandpur to Dewalgarh in the fourteenth century, and is held to be the first who attempted to bring the scattered states under one power; it must be inferred that he had reduced to subjection at least the parganas of Chandpur and Dewalgarh. Another name of interest is that of Bahadur or Balbhadra Sah, the first raja to

Ajai Pal.

Bahadur Sah.

*Memoir of the Dun.

exchange the ancient cognomen of Pal for that of Sah, still borne by the Tehri Raja. The story wholly unsupported is that a royal prince of the Delhi house came to Garhwal for a change of air. On his return his account of his reception so pleased the Emperor that he bestored his own name and his own title of Shah upon the Garhwal Raja. The Emperor was Bahadur Khan Lodi and the visit is said to have occurred in 1483. The date of a subsequent raja, Man Sah, may be fixed by a inscribed grant he has left about 1547. Man Sah was succeeded by Sama Sah and he by Dularam Sah, the first of his line to come in contact with the rising power of the Kumaon Chands. At this time Rudra Chand (1565 to 1597) was supreme in Kumaon and, having reduced Sira in the east, sought to add to his dominions also Badhan in the valley of the Pindar, a part of the territory of the Raja of Garhwal. The route to the Pindar lay though Someswar and the Katyur valley, which was then held by Sukhal Deo, the last reigning raja of the ancient Katyuri family. Dularam Sah promised his protection if Sukhal Deo would aid him, and sending a force towards Gwaldam and one towards Ganai, occupied the passes towards Badhangarhi. Parkhu, the general of Rudra Chand, with a small but veteran army, proceeded through Katyur to the valley of the Pindar, but soon found his supplies cut off by the Katyuri Raja and was shortly afterwards killed in an action near Gwaldam by a Padyar Rajput. The Garhwal Raja had promised a grant of land at every day's march to any one who should bring him the head of Parkhu, and the Padyar accordingly took the head of the slain general and carried it to the raja at Srinagar, where he received the promised reward. The Kumaonis fled to Almora, and Rudra Chand in person then undertook the preparations for a new expedition against Garhwal, but did not proceed beyond Katyur. He speedily overran the valley and captured the raja, deserted by his Garhwali allies. Rudra Chand died in 1597 and was succeeded on the throne of Kumaon by his son, Lakshmi Chand. This prince desirous of carrying out his father's policy seven times invaded Garhwal, but was each time repulsed with considerable loss. In his last attempt he was more successful, in that he was able to plunder the frontier parganas of Garhwal and retire in safety to Almora. At this time the reigning raja of Garhwal was Mahipati Sah, of whom little is

Dularam Sah.

War with Kumaon,

Mahipati Sah.

known except that he removed the capital from Dewalgarh to Srinagar, and is traditionally said to be the first raja who consolidated his rule over all Garhwal. From Ferishta we learn that at this time an impression of the great wealth of the hill states was generally prevalent amongst the Musalmans. He writes :—" The Raja of Kumaon also possesses an extensive dominion and a considerable quantity of gold is procured by washing the earth mounds in his country, which also contains copper mines. His territory stretches to the north as far as Tibet and on the south reaches to Sambhal, which is included in India. He retains in pay an army of 80,000 men, both in cavalry and infantry, and commands great respect from the Emperor of Delhi. His treasures too are vast. It is a rule among the kings of Kumaon not to encroach on the hoards of their ancestry, for it is a saying amongst them that whoever applies his father's treasures to his own use will become mean and beggarly in spirit; so that at the present day fifty-six distinct treasures exist which have been left by the rajas of Kumaon, each of which has the owner's seal upon it. The sources of the Jumna and of the Ganges are both to be found within the Kumaon territory." This description of Ferishta would appear to be more correct of Garhwal than of Kumaon; for the former country has been celebrated from the earliest times for its mines of copper and lead and the gold-washing in the Alaknanda and Bhagirathi valleys and along the Sona Nadi in the Patli Dun. It also contains the sources of the two rivers. Ferishta while descanting upon the hoarded treasures of the rajas apparently refers to the precatory verses usually attached to a grant of land by a Hindu raja, and the number of princes who have left hoards brings us very near to the time of Mahipati Sah, fifty-fourth on one list of Garhwal rajas. Akbar's sarkar of Kumaon contained twenty-one mahals, but none of these seem to have been situated in the hills. This exemption of the hill tract from Akbar's assessments is supported by the following story told to General Hardwicke by the raja's historian: "In the reign of Akbar that prince demanded of the Raja of Srinagar an account of the revenues of his raj and a chart of his country. The Raja, being then at court, repaired to the presence the following day and in obedience to the commands of the king

presented a true statement of his finances and, for the chart of his country, humorously introduced a lean camel, saying: 'This is a faithful picture of the territory I possess—up and down (*uncha nicha*) and very poor.' The King smiled at the ingenuity of the thought, and told him that from the revenues of a country realized with so much labour and in amount so small he had nothing to demand."

Whatever the reason may have been, the Muhammadans do not ever seem to have subjugated the hill rajas, though some expeditions successful to a certain extent, as far as the partial Muhammadan historians may be trusted, were fitted out. In 1654-55 Khalil Ullah Khan was despatched with 8,000 men to coerce the "zamindar of Srinagar," the only title then conceded to the Raja of Garhwal, at that time Pirthi Sah, the successor of Mahipati Sah. The hostile force met with little resistance and speedily overran Dehra Dun, then subject to the Garhwal Raja, but did not penetrate within the hills. This Pirthi Sah is the hero of the somewhat discreditable episode of the delivery of the fugitive Suleiman Shikoh to his implacable enemy the Emperor Aurangzeb. The story of this unfortunate prince belongs to general history and need not be dwelt upon here. Pirthi Sah's treachery is usually explained as being due to his fear of an imperial invasion, but Bernier represents the raja as living in an inaccessible country with no fear of Aurangzeb. Aurangzeb himself according to Bernier was harassed by the apprehension that the fugitive and his host "might descend as a torrent from their mountains."

Musalman invasion of the Dun.

During the reign of Pirthi Sah the aggression of the Kumaonis continued under the leadership of the then Raja Baz Bahadur, who had already fought on the side of Khalil Ullah against the Garhwalis. Baz Bahadur attacked at the same time both Badhan in the Pindar valley and Lohba, and was successful enough to seize the important frontier fort of Juniyagarh in Chaukot. Baz Bahadur next attacked the Tibetans and during his absence in the north the Garhwal Raja, who had been maturing his resources, by a rapid march surprised the Kumaon garrisons and recovered his territory. Baz Bahadur however quickly took the field, and sending a force into the Pindar valley under an experienced leader, himself took the route through the valley of

War with Kumaon.

the Ramganga and Lohba. The people of the Garhwal pattis of Sabli and Bangarsyun aided the Kumaonis who, after some slight skirmishing, drove the Garhwalis back to Srinagar itself. Here a hasty peace was patched up to which the ignominy of its being signed in the enemy's capital gave no additional assurance.

Medini Sah.

Pirthi Sah was succeeded by Medini Sah, of whose reign we have no record except references in the annals of Kumaon to aggressions made on Garhwal. Baz Bahadur died in 1678 and Udyot Chand, the next raja, ravaged Badhan in 1678, but suffered the loss of his principal and favourite officer, Maisi Sahu. Next year entering Garhwal by Ganai and Pandwakhal he penetrated by way of Lohba as far as Chandpur, the ancient stronghold of the Garhwal Rajas, which he captured and plundered. Medini Sah now sought aid elsewhere and entered into an offensive and defensive alliance with the Rainka Raja of Doti on the eastern confines of the Kumaon territory.

Alliance with Doti. The war continued.

In 1680 the Doti Raja occupied Champawat, while on the west the Garhwalis seized Dunagiri and Dwara. The war raged for two whole years, but in the end the Kumaonis prevailed against both their enemies, and garrisons were established in Dunagiri and Dwara to curb the Garhwalis.

Fateh Sah 1684-1716.

Medini Sah was succeeded in 1684 by Fateh Sah, who may perhaps be identified with the Fateh Singh who in 1692 led a memorable raid from Dehra Dun into Saharanpur, whence he was with difficulty expelled by Sayyid Ali, the imperial general. Fateh Sah is also credited with the extension of his power into Tibet, and a hat, coat, sword and matchlock said to have belonged to him are still kept in the temple of Daba in Hundes. Grants of this prince are still extant, dated 1685, 1706, 1710 and 1716. In these he is styled Phatepat Sah. The war with Kumaon commenced in the reign of Pirthi Sah was vigorously carried on by his successors. Gyan Chand of Kumaon, who came to the throne in 1698, inaugurated his reign in the traditional manner with a raid upon the fruitful Pindar valley which he laid waste as far as Tharali. The next year he crossed the Ramganga and plundered Sabli, Khatli and Saindhar, an attention which was returned in 1701 by the Garhwalis who overran Chaukot and Giwar. From this period onwards the relations between Garhwal and Almora took the form of raid and counter-raid across the border,

exacerbated by the presence of bands of masterless men who plundered impartially both sides of the marches. No one knew who would reap what had been sown, so that the more industrious part of the population abandoned the frontier tracts. Dense jungle took the place of cultivated fields and so obscured the border that to this day boundary disputes animated with the bitterest mutual hatred perpetuate the memory of ancient strife. In 1703 the Kumaonis were successful against the Garhwalis in a battle fought at Duduli, just above Melchauri. In 1707 another great expedition was undertaken towards Garhwal, and this time the Kumaon forces took possession of Juniyagarh in Bichla Chaukot, and again passing Pandwakhal and Dewalikhal passes penetrated as far as Chandpur and razed the old fort to the ground. The next Kumaon raja, Jagat Chand, plundered Lohba and garrisoned the fort of Lohbagarhi at the head of the Pandwakhal pass; and in the following year he pushed in by both Badhan and Lohba and uniting his forces at Simli, near the junction of the Pindar and the Alaknanda, proceeded down the valley of the latter river as far as Srinagar, which he occupied. The Garhwal Raja fled to Dehra Dun and Jagat Chand formally bestowed the town of Srinagar on a Brahman and divided the spoils of the expedition amongst his followers and the poor. Fateh Sah appears to have returned very soon, for in 1710 his troops were again mobilised in Badhan.

Fateh Shah died in 1716 and was succeeded by his son Dhalip, who after reigning for a few months made way for Upendra Sah. This prince ruled for about nine months, when he was succeeded by his nephew Pradip Sah, who directed the destinies of Garhwal for over half a century. Temporary peace with Kumaon inaugurated a period of exceptional prosperity in Garhwal and Dehra Dun. This prosperity attracted the notice of Najib Khan, the Rohilla chief of Saharanpur, who, after a very feeble resistance on the part of the Garhwal Raja in 1757, established his authority in the Dun, which he maintained up to his death in 1770. Pradip Sah was however more successful in the usual war with Kumaon, recovering his possessions in Badhan and Lohba and even invading the Katyur valley, where he suffered a reverse at Ramchula. Debi Chand, the Kumaon raja, followed up this success. He demanded Srinagar

Pradip Sah.

from the Brahman on whom his father Jagat Chand had bestowed it. The Brahman refused and Debi Chand attempted to secure his demand by force, but was repulsed and driven back across the border. The next Raja of Kumaon, Kalyan Chand, had embroiled himself with the Rohillas and in 1745 found his territories invaded by a force of 10,000 men under the command of Hafiz Rahmat Khan. Almora was speedily occupied and the Kumaonis invoked the assistance of Garhwal. After some natural hesitation the Raja of Garhwal marched upon Dunagiri and Dwara, where he effected a junction with the Kumaon forces. The combined armies however suffered a disastrous defeat and the Rohillas even threatened Srinagar itself; they thus brought the Raja to terms, by which he agreed to pay down three lakhs of rupees on behalf of Kalyan Chand, in consideration of which the Rohillas agreed to abandon the country. A few years later Pradip Sah again intervened in Kumaon affairs at the instance of the Phartiyal faction and claimed suzerainty, and the river Ramganga as the border. His demands were refused and he suffered defeat with a loss of 400 men at Tamba Dhaund in Chaukot. Utter anarchy now prevailed in Kumaon. The protector, Sib Deo Joshi, a strong and capable ruler, had been murdered by his own army. The titular raja, Dip Chand, was incapable, and his wife, Sringari Manjari, gathered the reins of power into her own hands, but was murdered by Mohan Singh, who afterwards treacherously killed the Raja also and proclaimed himself raja under the title of Mohan Chand. He signalised his succession by the slaughter of all friends and relatives of Sib Deo and a complete reign of terror ensued. The Rajas of Doti and Garhwal intervened, and the latter led a strong army into Kumaon, gaining a complete victory at Bagwali Pokhar in 1779. The usurper, Mohan Chand, fled and Lalat Sah who succeeded Pradip Sah in 1772 placed his son, Pradhaman, on the throne of Kumaon under the title of Pradhaman Chand.

Lalat Sah was however less fortunate in his administration of Dehra Dun, where affairs rapidly proceeded from bad to worse, so that either from his inattention or more probably from his oppression of the newly settled Musalman peasantry the Dun again become a wilderness. The influence of the mahant of the Sikh temple became supreme and the Dun became the happy hunting

ground of Gujar and Sikh marauders. The Garhwal Raja was unable to afford the people any protection beyond the doubtful respite secured by heavy payments of blackmail to the freebooters.

Jayakrit Sah,

Lalat Sah died almost in the moment of his victory in Kumaon and was succeeded by his son, Jayakrit Sah. Between him and his brother, Pradhaman, quarrels soon arose. The Garhwal Raja demanded an acknowledgment of his seniority by right of birth, which the Kumaon Raja refused to give, on the ground that Kumaon had never acknowledged the supremacy of Garhwal and that he was bound to maintain the dignity of the throne to which he had succeeded. The elder brother now began to intrigue with the exile, Mohan Singh. Harak Deb Joshi, the prime minister of Kumaon, went with a strong escort towards Garhwal and demanded an interview with the Raja in the hopes of arriving at a settlement. But Jayakrit refused, doubting his sincerity, possibly with reason, for when he attacked Harak Deb, hoping to surprise him, he found himself opposed to a force which defeated his troops and obliged him to seek safety in flight. So hardly pressed were the Garhwalis in the pursuit that the Raja sickened and died and the Kumaoni troops, sweeping everything before them, occupied Srinagar. To the present day this raid into Garhwal is known as the "Joshiyana." Parakram Sah, a brother of Jayakrit, now proclaimed himself Raja, but Pradhaman Sah came over from Almora, assumed the crown of Garhwal and transferred his empty throne to Parakram. But Parakram was feeble and unpopular; and Mohan Chand made good his re-entry into Kumaon in 1786, but was captured and killed two years later by Harak Deb, who, after unsuccessfully offering the vacant throne to Pradhaman Sah, set up a *roi fainéant* in the person of Sib Singh while keeping all real power in the hands of the Joshis and their adherents. Before however their government was firmly established in Almora they were driven out by Lal Singh, the brother of Mohan Singh, who placed on the throne his nephew. Mahendra Singh, under the style of Mahendra Chand. Lal Singh took the place of Harak Deb as regent and, aided by the machinations of Parakram banished, imprisoned or executed the leaders of the Joshi faction.

The Gurkhalis.

While Kumaon was distracted by these internal dissensions similar disorders prevailed in the neighbouring country of Nepal, at that time consisting of a number of petty states. One of these was the kingdom of Gurkha, situated in the north about eight days' journey from the Kathmandu valley. The Gurkhali Raja seeing the defenceless state of the valley and anxious to enlarge his narrow dominions led a large force eastwards, but received a severe check at the hands of the Vaisya Raja of Nawakot. His son, Prithinarayan, who had been instructed in state-craft at the court of Bhatkot, carried out his father's projects and finally occupied Kathmandu in 1768. His policy of conquest was continued during the short reign of his successor, Sinha Pratap Sah. This prince was succeeded in 1878 by Ran Bahadur Sah, who consolidated under his rule the whole of Nepal.

Ran Bahadar invades Kumaon.

The weak state of Kumaon was well known to Ran Bahadur and he determined to add it to his conquests; and with the aid of Harak Deb a Gurkha expedition set forth in 1790 and speedily occupied Almora. Next year preparations were made for the invasion of Garhwal and the Gurkhas penetrated as far as Langurgarhi, a strong fortress about 10 miles west of the position now occupied by Lansdowne. Langurgarhi defied all their attempts for over a year, when the news of the Chinese invasion of Nepal reached the besiegers, who to meet this new danger were compelled to raise the siege. All the Gurkha troops were withdrawn from Kumaon and Garhwal, the traitor, Harak Deb, being left as governor in Almora. The Garhwal Raja was however so impressed by this show of Gurkha power that he agreed to pay a yearly tribute of Rs. 25,000 and keep an agent at the court of Kathmandu. The Gurkhas, having settled their disputes with Garhwal and China, returned to Almora; so that Harak Deb found himself out of employment and an object of suspicion to his masters. He fled to the Srinagar court in the hope of inducing the Garhwal Raja to intervene on behalf of Padam Singh, who claimed the throne of Kumaon. Pradhaman Sah however wisely refused to interfere again in Kumaon affairs, and decided to abide by the terms of the convention of Langurgarhi. For twelve years this agreement preserved some appearance of amity between the courts of Garhwal and Nepal. Padam Singh therefore returned to the

plains, but Harak Deb remained at Srinagar and in later years was the animating spirit of the prolonged defence made by Garhwal against the Gurkhas.

Harak Deb seems to have held some office in the country of his adoption, for in 1794 we find his name connected with an application made to the Garhwal Raja to expel the adherents of the Rohilla, Ghulam Muhammad, who had taken refuge in the Patli Dun. Harak Deb was much disappointed with the settlement with the Gurkhas relative to Kumaon affairs made by the Nawab Wazir of Oudh, and went in person to plead the cause of the oppressed Garhwalis before the Nawab. Asaf-ud-daula referred him to Mr. Cherry, Resident at Benares, before whom Harak Deb presented himself in 1797, as a vakil on the part of the Garhwal Raja. Some correspondence actually took place relative to the Gurkha position and the real or fancied wrongs of their subjects in the hills, which was only interrupted by the murder of Mr. Cherry in 1799. Harak Deb then went to the court of Sonsar Chand of Kangra in quest of aid and applied to the Sikh ruler and also to Lord Lake, but obtained nothing more than sympathy. He also intrigued with Ran Bahadur, the deposed King of Nepal, against the Thapa or popular faction then supreme at Kathmandu, and even sent his son, Jai Narain, with a small Garhwali force to raise the northern pattis in his favour. Jai Narain got as far as Lilam in Johar, where he was detained quite as much by the disaffection and indeed exhaustion of his own people as by the active opposition of the Joharis, who had broken down a bridge to stop his way. In the meantime the Joharis amused the Garhwalis with promises of aid, whilst in reality fleet messengers conveyed information of their presence and condition to the nearest Gurkha post, the result being that Jai Narain and his party were captured. This untoward result was soon followed by the conquest of Garhwal, and in disgust Harak Deb retired to Kankhal near Hardwar vowing never to take any actual part in politics again. But here he was in the centre of the Nepalese traffic in Garhwali slaves and was the only one to whom they could now look up for any alleviation of their miseries. His sympathy is attested by the many letters he wrote to Mr. Fraser, Resident at Delhi, describing the atrocities committed by the Gurkhas on the hill people.

Rising in Garhwal.

Conquest of Garhwal.

The year 1803 is remarkable for the great and successful effort made by the Thapa party to reduce Garhwal. Ever since the siege of Langurgarhi was raised in 1792 small parties of Gurkhas had periodically plundered the border parganas, which they were taught to look upon as their lawful prey. The prisoners made in these expeditions were sold into slavery, the villages were burned and the country made desolate. The Garhwalis on their part made bloody reprisals and a border warfare ensued, characterised as all such wars are by deeds of wanton cruelty and ferocious revenge. Several fresh attempts had been made to capture Langurgarhi, but all had proved unsuccessful, and now the Gurkha leaders, Amar Singh Thapa, Hastidal Chautariya, Bam Sah Chautariya and others, at the head of a numerous and well-equipped veteran army invaded Garhwal. The mild and feeble Pradhaman Sah, Raja of Garhwal, would not be warned; he failed to grasp the nature of the danger to which he was exposed and portents had already paralysed his superstitious mind and warned him that his last hour had come. The priests of Paliyagadh at the sacred sources of the Jumna had foretold the Gurkha conquest and the death of Pradhaman Sah at Dehra, and his capital itself had been visited by an earthquake, which rendered his palace uninhabitable: frequent shocks took place, extending over a period of several months, and it is said that many ancient streams ran dry, whilst new springs appeared in other places. No real resistance was offered; the passes had been left unguarded and the Raja and his family left by way of Barahat to the Dun closely pursued by the victorious Gurkhas, who occupied Dehra in the cold weather of 1803. Pradhaman Sah then took refuge in the plains, and through the good offices of the Gujar Raja, Ramdyal Singh of Landhaura, was enabled to collect a force of some 12,000 men with whom he entered the Dun and made a belated attempt to recover his kingdom. In this he was unsuccessful, and in an action fought at Kharbara near Dehra he perished with most of his Garhwali retainers (January 1804). Pritam Sah, the brother of Pradhaman Sah, was taken prisoner and sent in custody to Nepal, but Sudarshan Sah, the eldest son of the deceased Raja, escaped to British territory, and Parakram Sah, who had so long been a trouble to his brother, took refuge with Sonsar Chand in Kangra. Amar Singh, with his son, Ranjor Thapa,

as deputy, held the administration of both Kumaon and the newly annexed territory during 1804, whilst preparations were being made to extend the Gurkha conquests westward. From the subscriptions to documents confirming the grants of lands free of revenue to the Garhwal temples we gather that Hastidal Sah (with some interruptions) and Sardar Bhakti Thapa were connected with its government from 1803 to 1815. But in addition the following names also occur: in 1804 Kazi Ranadhir Sinha, Kazi Amar Sinha Thapa, Ranajit Sinha Kunwar, Angad Sirdar and Sirdar Parsuram Thapa; in 1805 Chandrabir Thapa, Vijayanand Upadhya, Gaje Sinha; in 1806 Ashtadal Thapa, Rudobir Sah, Kazi Ramadhin, Parsuram Thapa; in 1807-09 Channu Bhandari, Parsuram Thapa, Bhairon Thapa; 1810 Kazi Bahadur Bhandari, Bakhshi Dasarath Khattri and Subahdar Sinhbir Adhikari; in 1811-15 Amar Sinha Thapa and Pharmaram Faujdar. It is impossible to say exactly what administrative functions were performed by these officers individually. Until 1805-06 at least Hastidal had little or no influence in the government. His subsequent administration of the Dun is greatly extolled and under his care it was rapidly recovering its old prosperity. His foreign policy also was vigorous; he speedily put an end to the raids into the Dun from the Punjab and Saharanpur by making a terrible example of a band of marauding Sikhs. In Garhwal itself it appears that Kazi Amar Singh Thapa was for a time governor. Here the sole object of the Gurkha occupation was the exaction of the greatest possible amount of tribute. To secure this end they adopted the administrative system of the rajas, on which they grafted a military autocracy. Srinagar still remained the chief town, and the country was divided into three commands, with head quarters at the seat of government, at Chandpurgarhi, and at Langurgarhi respectively. Minor civil magistracies were filled by officers with the military title of faujdar. They remunerated themselves by taking farm of the revenue and putting into their own pockets the fines they exacted in their judicial capacity. The government was ferocious, but weak. The local officers were given a free hand and as long as they paid in the revenue no questions were asked as to the means they had employed to that end. It was not until depopulation resulting on their barbarities had seriously reduced the revenue

that any consideration was granted to the miserable remnant of the people: then, but too late, a commission from Nepal was directed to enquire into abuses. No public buildings commemorate the supremacy of the Gurkhas: and now, beyond the universal execration of the descendants of their victims, the only monument to their name is a number of grants of *gunth* and *sadabart* villages.

The spirit was crushed out of the people by the most severe and often ridiculous imposts. *Dands* or fines were one of the most fruitful sources of revenue. "The most oppressive branch of the police" writes Traill "and that which proved the most fruitful source of judicial revenue consisted in the prohibitions issued under the Gurkhali government against numerous acts, the greater part of which were in themselves perfectly unobjectionable. The infringements of these orders were invariably visited with fines; indeed they would appear to have been chiefly issued with such view, as among the many ordinances of this kind it may be sufficient to specify one which in Garhwal forbade any woman from ascending on the top of a house. This prohibition though apparently ridiculous was in fact a very serious grievance: a part of the domestic economy hitherto left to the women, such as drying grain, cloth, &c., is performed there, and firewood and provisions for immediate consumption are stored in the same place, and the necessity for men superintending these operations, by withdrawing them from their labour in the fields, was felt as a hardship." Other items were presents to officials and the very significant transit due on children sold by their parents into slavery. Defaulters who could not meet these multitudinous demands were sold as slaves. Mr. J. B. Fraser computed the number sold during the Gurkha occupation at 20,000.

Raper writing in 1814 says: "The people are most vehement in their complaints against the Gurkhalis, of whom they stand in the utmost dread, but from the slavish habits and ideas they have contracted, it is doubtful if a spirit of resistance or independence could be excited amongst them. The villages in Garhwal afford a striking proof of the destruction caused by the Gorkhalis; uncultivated fields, ruined and deserted huts, present themselves in every direction. The temple lands alone are well-tilled. The Dun was ruined: under the Gurkhalis it

produced about one-fourth of the revenue realized by the Garhwali Rajas." Mr. Fraser writes: "The Gurkhalis ruled Garhwal with a rod of iron and the country fell into a lamentable decay. Its villages became deserted, its agriculture ruined and its population decreased beyond computation. It is said that two lakhs, (200,000) of people were sold as slaves, while few families of consequence remained in the country; but, to avoid the severity of the tyranny, they either went into banishment or were cut off or forcibly driven away by their tyrants: yet some of the individual rules of these conquerors were mild and not disliked. Bam Sah and Hastidal, the governors of Garhwal, were disposed to indulgence; and in some situations the country towards the close of the Gurkhali rule was again improving and getting reconciled to its new state. Ranjor Singh Thapa was also a well-disposed man and a mild governor, and inclined to justice, but the executive officers were severe. Their manners as conquerors were rough and they despised the people they had conquered, so that at some distance from the seat of government exactions went on, insults and scenes of rapine were continually acted, and the hatred of the people to their tyrants was fixed and exasperated: the country was subdued and crushed, not reconciled, or accustomed to the yoke: and, though the spirit of liberty was sorely broke, and desire for revenge was checked by the danger of avowing such sentiments, a deliverance from the state of misery groaned under was ardently, though hopelessly, wished for." The Gurkhas reserved their most exquisite savagery for Garhwal, while treating Kumaon with mildness and something approaching justice.

The Gurkhas now however came in contact with the British power. Continued aggressions upon British territory in Gorakhpur and elsewhere at last determined Lord Hastings to declare war. It was decided to attack Nepal simultaneously from as many points as possible. To this end Major-General Marley with 8,000 men was sent to Behar with orders to march direct upon Kathmandu. Major-General Wood was despatched to Gorakhpur with 4,000 men. These armies met with little success: nor do their campaigns directly concern the history of Garhwal. General Gillespie with 3,500 men was instructed to enter Garhwal by the Dun and dislodge Amar Singh Thapa from Srinagar. He found

The Nepal war.

the Gurkhas in strength at fort Kalanga, three miles east of Dehra. After an unsuccessful attempt at a *coup de main* by Colonel Mawby formal siege was laid to the fort on the 26th October 1814. The first assault was delivered on the 31st October, but of the four storming parties prepared, only one under Colonel Carpenter was engaged. The General himself brought up the reserves but was killed. Coloned Carpenter then drew off his troops and sent to Dehra Dun for reinforcements. On the 24th November the attack was renewed with similar results, the Gurkhas making a most determined resistance. At last it was discovered that there was no water in the fort and that the garrison was compelled to resort to a spring at some distance. This was cut off and the fire from the batteries recommenced next day, doing great damage to the fort and its gallant defenders. On the night of the 30th November Balbhadra Thapa with seventy men—all that remained of his three or four hundred—evacuated the fort, cut his way through a line of posts placed to intercept him, and escaped to a neighbouring hill, where he was joined by some three hundred others who had been seen hovering about the neighbourhood endeavouring to find a way into the fort. This party was dispersed by Major Ludlow but escaped to the Jauntgarh fort, where it successfully withstood a siege by a British force. Meanwhile Colonel Carpenter, having razed Kalanga to the ground, effected a junction with General Martindell. The combined force occupied Nahan, but was checked at Jaithak fort, where it remained inactive for three months. A third Gurkha army under Amar Singh Thapa opposed General Ochterlony on the Sutlej. He, by a series of skilful movements, caused them to evacuate their strong posts and concentrate at Malaun.

Invasion of Kumaon.

The inconclusive campaign in the Dun and the reverses suffered by the Behar and Gorakhpur columns made Lord Hastings anxious to obtain a footing in Kumaon. It was known that Kumaon and the neighbouring provinces had been drained of soldiers to supply the urgent calls of the Gurkhas both in the east and the west. In 1815 an expedition started under Lieutenant-Colonel Gardiner. Almora was taken on the 27th April and the Gurkhas under Bam Sah evacuated Kumaun. Amar Singh, though advised by Bam Sah to submit himself to the convention of Almora, held out before General Ochterlony at Malaun, but his force

gradually melted away, and when he had but two hundred men left he consented to deliver up the forts of Malaun and Jaithak. The fort of Lohba had already been reduced by the Garhwalis themselves, the only occasion on which the victims of Gurkha oppression had the spirit to turn upon their masters before their downfall : but when the power of the Gurkhas was broken, the Garhwalis exacted full payment of the debt of blood and cruelty. Isolated bands were massacred or driven away to die of exposure and starvation among the mountains: everywhere the people of Garhwal executed upon their oppressors a savage punishment for their deeds of rapine and cruelty.

Mr. Fraser writes :—" It was usual during the time when the Gurkhalis were in power to station parties in the different districts for the purpose of collecting the revenue, and in progress of time many of them took daughters of the zamindars in marriage, not always with the good will of the latter; but the connection formed a tie between the conquerors and the conquered, which though far weaker from the savage and treacherous nature of the people and circumstances of violence under which it was formed than a similar one in most other countries would have been, was still sufficient during its existence to guarantee the life and prevent the murder of the son-in-law. When the power of the Gurkhalis was broken and their troops taken prisoners or scattered, those in the remote districts who were thus connected chose to domesticate with their wives and families rather than run the hazard of retreating through a country of hostile savages, ripe for revenge upon tyrannical but now foreign masters. Others too in like manner, although not enjoying the security resulting from any such tie, chose rather to trust to the protection of some zamindars whom they had known, and possibly once obliged, and by whom they believed that their lives would not be attacked, than risk their safety in a more dangerous flight, although the loss of property in both cases was nearly certain. Thus individuals of this wretched people were found in the hills in every district, and almost every one was stripped of his property, even till they were in want of clothes to cover them from the weather. Many were more deplorably situated. Some wounded and neglected were found languishing unassisted and wanting even necessaries. Others had fled to the ungles to escape

the massacre to which their comrades had fallen victims and for a long time subsisted on roots and fruits. Even the marriage tie did not always ensure good treatment, and not infrequently, when the terrors of consequences ceased, the zamindars reclaimed their daughters and forced them to leave their husbands, although the stipulated prices had been paid for them."

The annexation.

In 1811 Sudarshan Sah had promised Major Hearsey to give him Dehra Dun and Chandi (now in the Bijnor district), should he procure the restoration of the country then occupied by the Gurkhas, and on the evacuation of Garhwal Major Hearsey brought forward his claim, which was rejected though he was granted an annuity which his descendants still enjoy. At the termination of the war Sudarshan Sah was living in great poverty at Dehra, and as an act of clemency Mr. W. Fraser in 1815 was authorized to hand over to the Raja the portions of Garhwal situated to the west of the Alaknanda with the express reservation of the Dun and the pargana of Rawain lying between the Alaknanda and the Bhagirath. In July 1815 Mr. Fraser, in obedience to the order of Government, had directed the principal inhabitants of the parganas lying to the east of the Alaknanda as far as Rudrprayag and to the east of the Mandagini above that point, to consider themselves under the authority of the Commissioner of Kumaun, and henceforward this tract formed a portion of his jurisdiction. Mr. Gardner was too much occupied with his political duties, in the execution of which he accompained General Ochterlony's expedition to Nepal, to visit the western parganas, and Mr. G. W. Traill, the assistant commissioner, was sent to Garhwal to introduce the British authority in that province and to conclude a settlement of the land revenue. It was subsequently suggested by Mr. Gardner that Rawain, the barren and rocky country between Nagpur and Jaunsar-Bawar, containing the head quarters of the Tons, the Jumna and the Bhagirathi, be handed over to the Raja of Garhwal, and though it was doubted whether the mild control of the Raja would impose a sufficient restraint on the predatory habits of the inhabitants it was ultimately resolved to let him make the attempt. In 1816 Mr. Traill brought to the notice of the Government the difficulty that might arise if more precise words were not used in defining the boundary between British

and Tehri Garhwal. Although pargana Nagpur was clearly intended to be included in the portion of territory retained by the British, the loose use of the Alaknanda and Mandagini rivers as the boundary in the negotiations of the period would have cut off some valuable portions of that pargana, including pattis Bamsu and Maikhanda and the mines near Dhanoli, which lay to the west of these rivers. In fact in 1823 the Raja laid claim to the villages lying to the west of the Mandagini on those very grounds, but it was ruled that term Nagpur as used in the negotiation included all the subdivisions then within its established limits.

In 1818 Mr. Traill complained of the disorderly state of the Rawain pargana, the inhabitants of which being relieved from the fear of both the Gurkhas and the British had taken to their old occupation of plundering the pilgrims to Gangotri and Kedarnath. The Raja was appealed to in vain, but the tract was never removed from his authority and was formally annexed to Tehri in 1824. It was not until this time that a formal sanad under the seal of the Supreme Government was conferred upon the Raja, for certain difficulties had arisen which required settlement. The Raja of Bashahr laid claim to the taluka of Undra Kunwar although it had been included in the grant made to the Raja of Garhwal by Mr. Fraser. Again Pitam Sah, the uncle of the Raja, released from prison in Nepal through the good offices of Mr. Gardner, claimed the zamindari right in the parganas of Garhwal and Dehra Dun ceded to the British by the Gurkhas on apparently no better grounds than that of his being the next heir to the raj of Garhwal. A similar claim made by his brother had already been refused, and it was held that the renunciation by Sudarshan Sah of all claims of this kind on his acceptance of the territories restored to him by the British, as well as the previous conquest of the Gurkha, annulled all subordinate contingent rights of other members of his family. By the terms of the sanad the Raja of Garhwal is bound to give assistance and supplies when called on, and to furnish facilities for trading in his country and the countries beyond, nor can he alienate or mortgage any portion of his territory without the consent of the British Government.

British administration of Kumaon.

The subsequent administrative history of the province of Kumaon including Garhwal as remarked by Mr. Whalley, in his

"Laws of the Non-Regulation Provinces" naturally divides itself into three periods—Kumaon under Traill, Kumaon under Batten and Kumaon under Ramsay. "The régime in the first period was essentially paternal, despotic and personal. It resisted the centralising tendencies which the policy of the Government had developed. It was at the same time, though arbitrary, a just, wise and progressive administration." "Mr. Traill's administration lasted from 1815 to 1835. On his departure there followed an interval of wavering uncertainty and comparative misrule." "The system of government," as was observed by Mr. Bird in his report on the administration of Kumaon "had been framed to suit the particular character and scope of one individual. Traill left the province orderly, prosperous and comparatively civilized, but his machinery was not easily worked by another hand. There was no law, and the law-giver had been withdrawn. The Board of Commissioners and the Government, who had remained quiescent while the province was in the hands of an administrator of tried ability and equal to all emergencies, found it necessary to reassert their control and to lay down specific rules in matters which had hitherto been left to the judgment of the Commissioner. Mr. Batten was then only assistant commissioner of Garhwal: but he was a man eminently qualified both by training and disposition to second the action of the Government and to assist in the inauguration of the new era. His talents had already been recognized, and from this period he was consulted in every step, and it was his influence more than that of any single officer which gave its stamp and character to the period which I have distinguished by his name. Its duration covered the years 1836 to 1856. It was marked in its earlier stages by an influx of rules and a predominancy of official supervision which gradually subsided as Mr. Batten gained in influence, position and experience Thus the second period glided insensibly into the third, which nevertheless has a distinctive character of its own. In Sir Henry Ramsay's administration we see the two currents blended, the personal sway and unhampered autocracy of the first era combining with the orderly procedure and observance of fixed rules and principles which was the chief feature of the second." In 1839 the province of Kumaon was

divided into the districts of Garhwal and Kumaon, each under a senior assistant commissioner having the same powers as a collector has in the plains. The remaining history of Garhwal is a record of peaceful development under the able administrators already mentioned. The Mutiny left the district undisturbed. "Mr. Beckett kept the passes into the hills well guarded, and at once proceeded in any direction where attacks were threatened. In consequence of some evil-disposed plainsmen attempting to create a disturbance at Srinagar a company of Gurkhas was sent over for a short time from Almora, but with the exception of some dacoities in the early part of the Mutiny Mr. Beckett's district, like Kumaon, remained perfectly well-conducted and loyal. In fact with a few individual exceptions the people of Kumaon and Garhwal have behaved very well. They supplied coolies, grain, and men to protect the bye-passes, and the best evidence I can offer of their loyalty and honesty is the fact of remittances of Rs. 10 to Rs. 50,000 having passed through the hills from Mussooree to Almora in charge of a few chaprassis."*

* Report of Commissioner of Kumaon, no. 258 of the 22nd July 1858.

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and Banghat which are distant respectively 10 and 12 miles. The name is applied to the camping ground and the pine forest as well as to the dâk bungalow, which stands at an elevation of 6,200 feet. From Adwani a road branches off to Byansghat, nine miles away at the junction of the Ganges and Nayar rivers.

Above Adwani lies the well-known Ranigarh peak, crowned by the remains of an old fort. From this point there is a fine view of the hills as far west as Mussooree, as well as of the plains.

ALAKNANDA, the principal river flowing through the district, rises to the north of Badrinath and is joined by the Saraswati just below the village of Mana. The river derives its name from Alakapuri, the town where Kuvera the god of wealth resides, and whence it is said to have commenced its course down to the plains. The Kedarakhanda distinctly mentions the fact that at Vishnuprayag is the confluence of the Alaknanda and Dhauli rivers, and therefore it may be assumed that the real designation of the course of the former from its source to its confluence with the Bhagirathi at Deoprayag is the Alaknanda but that owing to the existence at Vishnuprayag of a pool in the river sacred to Vishnu, part of the course bears the name Vishnuganga. At the confluence with the Dhauli the latter has a breadth of about 35 or 40 yards and the Alaknanda a breadth of 25 or 30 yards, both with a very rapid current. The meeting of the two torrents viewed from the steps leading down to the bathing ghât is a magnificent spectacle. The elevation of the confluence above the sea is 4,743 feet. The united stream flows south-west to Chamoli, receiving the Rudr, Garur, Patal and Birehi Gangas; thence in a southerly direction to Nandprayag, where the Nandakini joins it from the east in latitude 30° 19′ 56″ and longitude 79° 21′ 29″ at an elevation of 2,464 feet above the level of the sea. Again it turns south-west to Karanprayag, 45 miles from Vishnuprayag, where the Pindar joins it on the left bank in latitude 30° 15′ 45″ and longitude 79° 15′ 29″ with an elevation of 2,300 feet, and thence nearly due west to Rudrprayag, 19 miles, where it receives the Mandagini from the north on the right bank in latitude 30° 17′ 10″ and longitude 79° 1′ 32″ at an elevation of 1,912 feet. Turning again now south-west it flows by Srinagar to Deoprayag, 44 miles, when it is joined by the

Bhagirathi from Tehri-Garhwal in latitude 30° 8′ 45″ and longitude 78° 38′ 56″ at an elevation of 1,483 feet, after which it is styled the Ganges. At one place the river narrows to about 25 feet and rushes through a cut in the rocks which rise at least 300 feet perpendicularly on either side, opening out into an immense pool. This locality is about four miles above Punar Chatti and is called the "Kakar's Leap." The legend goes that when the Pandava brothers, on their journey from Indraprastha to retire to the Himalayas, approached this spot a kakar or barking deer leapt across and hid in a cave. In the vicinity is a small temple near the water's edge called Koteswar, which is said to have been founded by the Pandavas in memory of this incident. The fall of the river from this point is not so rapid and there is a succession of long reaches between it and Deoprayag with intervening short rapids. At Deoprayag a huge mass of rock appears to have fallen into the stream, narrowing it to half its proper breadth just before it is joined by the Bhagirathi. The former rope bridge is now replaced by a suspension bridge of 280 feet span, connecting the villages of Bah (*q. v.*) and Deoprayag, the latter being in Tehri-Garhwal. This bridge was constructed in 1890, badly damaged by the Gohna flood (*q. v.*) and repaired by an Indian gentleman, a resident of the Naini Tal district, at a cost of 5,000 rupees. At the confluence the Bhagirathi rushes with great force and rapidity down a steep declivity, roaring and foaming over large rocks scattered over its bed. Its breadth is 112 feet and it rises 40 feet during the melting of the snows. The Alaknanda, flowing with a smooth, unruffled surface, gently winds round the point of confluence. It is 142 feet in breadth and rises 46 feet at the same period. The breadth of the united stream is 240 feet. The Alaknanda abounds with fish, some of which are four or five feet in length. The mahseer is found weighing up to 80 pounds. Gold in small quantities has been obtained by searching the sands of this river, but the remuneration resulting (about four annas a day) is so scanty that the search has been nearly discontinued. There are several fine forests of Smithiana, Webbiana and other firs above its northen bank from Rudrprayag to Pipalkoti. Below this, pines occur up the Ningol valley, opposite Nandprayag, on the slopes of the Nagpur hills opposite Chatwapipal at Pokhri and as far south as

Dhari near Srinagar. The main pilgrim route from Lachhmanjhula to Badrinath follows the left bank of the river via Bah to Chamoli; it then crosses to the right bank as far as Hat, where it re-crosses the river and follows the left bank to Vishnuprayag. The river is generally too rapid for navigation, except at one or two ferries, but it is used for the flotation of timber from the forests on its banks.

BADHAN, a pargana of the district which from 1862 up to the recent settlement consisted of six pattis, viz. Kapiri, Karakot, Khansar, Nandak, Pindarwar and Pindarpar. In 1896 however for administrative purposes pattis Karakot, Nandak and Kapiri were included elsewhere and the pargana as it now exists consists of pattis Pindarpar, Khansar, Walla Badhan and Palla Badhan. It is bounded on the north by pargana Dasoli, on the south and east by the Almora district and on the west by pargana Chandpur. The total area of the pargana is 594 square miles, of which only 20 are cultivated; the *khalsa* revenue amounts to Rs. 7,783 and the *gunth* revenue to Rs. 402. There are 21 thokdars in this pargana receiving as their dues six per cent. of the revenue of their villages. This is one of the few parganas of the district that can boast of a tea estate which is still being worked, Gwaldam being situated on its eastern side touching the Almora district; with it is incorporated Thalwari, a few miles away. The entire population of the pargana at the recent census of 1901 was 24,350 souls. The pargana contains excellent forests of oak and fir, while in parts ringals, which are extensively used in the manufacture of baskets and other household receptacles, form the undergrowth of the jungles.

BADRINATH, in pargana Malla Painkhanda, is a temple and collection of rest-houses and shops on the route from Srinagar to the Mana pass, 25 miles south of the latter and 105 miles north-east of the former. The temple is situated on the right bank of the river Alaknanda, in the middle of an open valley over three miles long and one mile broad and is equi-distant from two lofty mountains, the Nar and Narayana Parbat, one rising to the east and the other to the west. The bank on whic

it stands is sloping, that opposite is bolder, its brow being on a level with the top of the temple of Badrinath or Badrinarayan, an incarnation of Vishnu, situate in the highest part of the habitation and rising between 40 and 50 feet from the ground. The temple lies in north latitude 30° 44′ 36″ and east longitude 79° 32′ 20″ at an elevation of 10,284 feet above the level of the sea. The original building is said to have been erected by Sankara Acharya about the eighth century. The present temple possesses a very modern appearance, several former ones having been overwhelmed by avalanches. The body of it is constructed of flat stones joined with mortar made of lime and brickdust and covered with a coat of fine plaster, which while adding to its neatness detracts from the appearance of antiquity. For roofing purposes the wood of the deodar has been used. A short distance below the temple is the Taptakund, a tank measuring sixteen and a half by fourteen and a quarter feet and covered with a roof of planks supported on wooden posts. It is supplied from a thermal spring by means of a subterraneous communication terminated by a spout in the form of a dragon's head. A thick smoke or steam of a sulphurous smell is sent forth by the water, which is so hot as to be scarcely endurable to the touch until the temperature is reduced by the admixture of cold water from another spring. On the 26th May at about 11 A.M. the temperature of the hot spring water was 120° Fahrenheit. In this manner a bath is formed in which the sexes bathe indiscriminately. The ablution accompanied by due adoration of the idol and liberal fees to the attendant Brahmans is considered so efficacious in cleansing from past offences that in ordinary years some fifty thousand pilgrims visit the shrine and every twelfth year at the Kumbh mela the number is considerably increased. The pilgrims assemble at Hardwar and, as soon as the fair there is closed towards the middle of April, proceed on their round of pilgrimage in the mountains by Deoprayag, Rudraprayag, Kedarnath, Badrinath and home by Nandprayag and Karanprayag through Melchauri to the plains via Ramnagar. Pilgrims from the Panjab generally return through Pauri to Kotdwara which is now the terminus of a branch railway from Najibabad, whence they proceed to their homes. The region surrounding the temple is known

as the Vaisnava-kshetra, and it comprises the area within which are situated the Panch-badri. Their names are as follows : Badrinarayan (Bishalbadri), Yogbadri (Pandukeswar), Babishyabadri (near Tapoban), Briddhbadri (Animath) and Dhyanbadri (near Silang).

Besides Taptakund, in which Agni resides by permission of Vishnu, there is a recess in the bed of the river forming a pool called Naradakund. This is sheltered by a bare rock whose projecting angle breaks the force of the current and renders the place fit for bathing. A little to the left is the Suryakund, another thermal spring proceeding from a fissure in the bank. There is no reservoir here and the pilgrims catch the water in their hands and throw it over their bodies. There is also the Brahma-kapal which all pilgrims visit and where ceremonies are performed in memory of their departed ancestors. Other reservoirs too exist which are said to possess various virtues. The idol in the principal temple is formed of black stone and stands about three feet high. During the daytime it is usually clothed with rich gold brocade and adorned with many gold and silver ornaments. Above its head are a small golden canopy (*chattar*) and a bright mirror. In front are several lamps always burning, and a table also covered with brocade. The idol wears too a tiara of gold in the centre of which is a diamond of moderate size. The whole of the properties including dresses and ornaments are worth at least ten thousand rupees. To the right are the images of Nara and Narayana and on the left those of Kuvera and Narada. The idol of Narsinha at Joshimath is said to have one arm which daily grows thinner, and when it falls off the road to Badrinath will be closed by a landslip and a new temple erected at Babishyabadri near Tapoban or, as some say, at Adbadri in Chandpur. The following sloka occurs in Sanat Kumar Saṃhita :—

" Yavad vishnoḥ kala tishthej,
Jyotiḥ saṃgye nijalaye.
Tatah param tatah purva.
Magamya Badari bhavet."

" The road to Badri never will be closed
The while at Jyoti (Joshimath) Vishnu doth remain ;
But straightway when the god shall cease to dwell,
The path to Badri will be shut to men."

A good deal of ostentatious attention is paid to the personal comfort of the idol at Badrinath. It is daily provided with two meals, one in the early morning and one in the afternoon. A portion of the rice and other kinds of food prepared is placed in front of the idol for about half an hour; the rest is laid out on dishes in the outer room. After this interval it is all distributed among the pilgrims, the doors of the inner room remaining closed during the period between the meals. The vessels in which the idol is served are of gold and silver and a large establishment of servants is kept up, both male and female, the latter as dancing girls. The only persons who have access to the inner apartments are the pujaris and no one but the Rawal himself is allowed to touch the idol.

The temple is closed on some auspicious date in November and a few of the utensils are shut up inside, but all the treasure is taken down to Joshimath, the winter head quarters. As a rule the temple from November to the middle of May is covered with snow. The temple possesses an endowment in the Almora district of 45 whole villages and 26 part villages with a total (*gunth*) revenue demand of Rs. 1,750; and in this district 164 whole villages and laggas and portions in 111 others with a total (*gunth*) revenue demand of Rs. 5,429.

In former days the custom was, as described by Mr. Lushington in 1846, for the Rawal for the time being, in concert with the hereditary temple officials, to select during his lifetime as successor such person as according to the Shastras could be held worthy of the office. A new Rawal received a sanad from the ruling power. With the advent of the British the Commissioner of Kumaun exercised the authority that formerly vested in the Rawals. During the years that followed the civil authorities frequently had to interfere in the management of the temple affairs, which had reached an unsatisfactory state. Various schemes were adopted with a view to place them on a substantial footing. In 1893 the then Rawal, a very old man, abdicated the temporal control of the temple. No suitable naib or successor being obtainable, two or three managers were from time to time appointed, who held the post with varying success. At last in 1896 a suit was by order of the Local Government instituted under section 539 of the Code of Civil

Procedure, with the result that now the sole management of the secular affairs of the temple rests with the Rawal subject to the control of His Highness the Raja of Tehri-Garhwal, who can also arrange for the appointment of the naib Rawal if the Rawal fails to appoint one himself. The Rawal must be a Namburi Brahman from southern India, and a member of the priestly class of his clan and possess certain other specified qualifications.

The offerings of the temple consist of the 'thali bhet,' 'atka bhog' and 'gaddi bhet.' The first is the principal offering made by the pilgrim to the god, and placed in a receptacle near the spot whence he views the idol. The offering may be in the form of cash, ornaments, shawls and so forth. This is the chief source of the income of the temple. The second kind of offering, the 'atka bhog,' is made in order that the pilgrim may obtain a portion of the food cooked in the temple kitchen after it has been offered to the idol. If the cost of the pilgrim's daily food and that of his servants amounts to one rupee, he has to pay two rupees 'atka bhog,' the extra rupee being credited in the temple treasury. The third kind of offering, the 'gaddi bhet,' is made to the Rawal's gaddi or throne as it is considered the proper thing to do honour to the Rawal as the mouthpiece of the god, but he is not entitled to appropriate it, and it goes to swell the temple funds.

The Rawal performs service morning and evening, and sits in his kachahri all day long receiving the temple offerings known as 'atka bhet' and 'gaddi bhet'; they are noted when presented by the likhwar (or secretary) and deposited in the treasury in the evening. The treasurers (bhandaris or mahta bhandaris) are Rajputs of Pandukeswar. They are responsible under two main heads—offerings entrusted to them, and grain brought for temple use and put in their charge. They are remunerated by every twentieth *nali* of grain brought out for use. The Pandukeswar people are also servants of the temple for the purposes of bringing wood and water for cooking the offerings; for this they get Rs. 120 a year. The other temple servants are the Dimris. Nine of these, appointed in turn by a Dimri panchayat, cook the *prasad* or offerings of rice and the like. The likhwar is also a Dimri.

The manager keeps proper accounts showing the offerings made each day under the head 'thali bhet' (made in the temple), 'gaddi bhet' and 'atka bhet' made to the Rawal.

The other members of the temporal council for the affairs of Badrinath are the Bhotia Sayanas of Mana. The temple priests have long abandoned the practice of celibacy. They marry freely with the daughters of neighbouring Rajputs, and their children naturally tend to succeed their fathers.

A dispensary for the use of the pilgrims is maintained at Badrinath out of the sadabart fund, and private sadabart charities for the relief of indigent pilgrims are maintained by the Gwalior, Kashmir and Palwal states and by the Kali Kamli fakirs at Badrinath, and by the latter all along the route.

BAH, a bazar and halting place on the Hardwar-Badrinath road situate in latitude 30° 8′ 35″ and longitude 78° 38′ 40″ on the left bank of the Alaknanda in patti Kandwalsyun of pargana Barahsyun. It is exactly opposite to Deoprayag in Tehri-Garhwal and is connected with it by a suspension bridge of 280 feet span which was rebuilt after the Gohna flood in 1894. Just below these two bazars is the confluence of the Alaknanda and Bhagirathi after which the united rivers bear the name Ganges. The pilgrim from Hardwar has to cross to Deoprayag to perform his religious devotions, for there is the *prayag* and the temple of Raghunath, but as a rule he makes his stay at Bah, merely crossing during the day and returning the same evening. The majority of *pandas*, who conduct pilgrims to the temples, live in Deoprayag and in Ranakot in patti Kandwalsyun of this district. A public works department bungalow is situated at Bah.

BAIJRAO ('*Bajo*' a species of grass and '*rao*' an eddy), a halting place on the route from Kainyur to Ramnagar is situated in patti Sabli of pargana Malla Salan in latitude 29° 55′ and longitude 79° 4′ 41″ distant 10 miles 7 furlongs 21 poles from Kainyur and 9 miles 3 furlongs 28 poles from Bhatwaron, the next stage. Five roads branch off from this place; one to Sarainkhet, one to Bungidhar, one to Kainyur, one to Pokhra and one to Domaila on the route to Ramnagar. The road hence to Bhatwaron crosses

the Eastern Nayar by a bridge of 62 feet span, proceeds through Lachi, where there is a small truss bridge of 28 feet span, and so on to Kakrora, Rikhar and Biron-khal at Domaila, distant six and a half miles from Baijrao. From Domaila the road crosses the Khatalgadh by a bridge of 72 feet span, descending for a mile and a half and again ascending to Bhatwaron, a camping ground in large open fields (3 miles 4 furlongs).

BAMPA, a village, situated in latitude 30° 44′ and longitude 79° 52′ 6″, of Malla Painkhanda on the route from Joshimath to the Niti pass. There is a post here for the registration of traffic going and coming through the Niti pass. There are 55 households, with a population of 262 souls. Here the deodars end and the only trees beyond are the birch and *pinus excelsa*.

BANGHAT, a halting place on the road from Kotdwara to Pauri, situated in patti Walla Langur of pargana Ganga Salan, and on the left bank of the united Nayar rivers. There is a dâk bungalow, with a small bazar across the river connected by a suspension bridge of 250 feet span. Dadamandi the previous stage is 12 miles away, and Banghat is the same number of miles distant from Adwani, the next halting place on the road to Pauri. The route from Dadamandi ascends to Dwarikhal (5,350 feet) six miles, and then descends for another six miles to Banghat, 2,350 feet above the level of the sea.

BANJBAGAR, a resting place on the route from Nandprayag on the Alaknanda to Baijnath on the Gumti, is situated in patti Malli Dasoli of pargana Dasoli, distant 15 miles from Nandprayag, 12 miles from Narayanbagar, where the Pindar is crossed by a suspension bridge of 180 feet span, and 9 miles from Dungri on the right bank of a tributary of that river. The journey from Nandprayag is often broken at Ghat, 10 miles from that place, and here too the road to Ramni branches off. From Nandprayag the road to Banjbagar follows the left bank of the Nandakini river as far as Ghat whence it continues up a side stream. The road is bridged throughout where necessary. It is gently undulating without any steep or difficult ascents. The scenery

in parts is very picturesque and the hills are well covered with forest. At Banjbagar the road to Narayanbagar turns off to the right and that to Dungri to the left.

BARAHSYUN, one of the eleven parganas into which the district is divided, consists of fourteen pattis, namely Aswalsyun, Banelsyun, Bangarhsyun, Gagwarsyun, Idwalsyun, Kandwalsyun, Kapholsyun, Khatsyun, Manyarsyun, Nandalsyun, Paidulsyun, Patwalsyun, Rawatsyun and Sitonsyun, divided into eleven patwari circles. It is bounded on the north by the Alaknanda and pargana Dewalgarh, on the south by the united Nayars and pargana Ganga Salan, on the east by the Western Nayar and pargana Chaundkot and on the west by the Alaknanda. The total area of the pargana is 211 square miles, of which 79 are cultivated, and the revenue demand at the last settlement was Rs. 28,539.

The population in 1841 was 22,063, in 1853, 33,497, in 1885, 34,232, in 1872, 44,727, in 1881, 48,220, and in 1901, 58,171. Barahsyun, as its name implies, originally consisted of twelve sub-divisions. Many parts are bare of trees, but the whole tract with the exception of some portions of the river glens is eminently fertile and bears a resemblance rather to Kumaun than to Garhwal. The villages are large and the population plentiful and industrious. Each patti generally has its own separate valley and the surplus produce is sold either at Srinagar on the pilgrim road, or at Pauri, the head quarters of the district. Tobacco is grown at low elevations in pattis Nandalsyun and Aswalsyun ; hemp is rarely grown, neither do the people use sheep and goats for the purposes of traffic. Their dress also is more frequently made of cotton than of hempen cloth, and woollen apparel is quite unknown. This part of the country was very much injured by the oppressive rule of the Gurkhas, but even in the time of the rajas, near the close of the eighteenth century, General Hardwicke describes the the tract as wretchedly waste. Now it is highly cultivated, the population has increased enormously, and since 1840 the pargana has much benefited by the establishment of the district head quarters at Pauri. Clay, slate and quartz rock almost exclusively prevail.

The BHABAR, a narrow strip of land about 58 miles in length and nowhere more than 2 miles in width stretching along the foot of the hills. The larger part of it is within the boundaries of the Ganges and Garhwal forest divisions, but small portions, dealt with in this notice, have from time to time been disafforested and brought under the plough. As the tract is waterless, the rivers disappearing underground after debouching from the hills to reappear above the surface some miles further south, cultivation can be carried on only by irrigation through canals which tap the river water before it sinks into the ground. The Bhabar does not appear to have been under cultivation at the time of the British occupation in 1815 A.D., but the remains of tanks and a fort at Mawakot 5 miles west of Kotdwara show that in the time of the Garhwal Rajas there were some people settled there. Its value seems to have lain in the grazing grounds and forest produce. Practically the whole of the present cultivation is confined to the tract irrigable by canals taken from the Khoh and Malan rivers and other streams, but there are a few villages just outside the hills below the Patli Dun which have been under the plough since the early part of last century. Cultivation in earnest may be said to have begun in 1869-70 when the late Colonel Garstin was district officer of this district. There were then 18 villages in existence comprising a cultivated area of 2,069 bighas * with a total assessment of Rs. 999. Within ten years the area increased to 5,700 bighas and the assessment to Rs. 1,885, while in 1899 there were no less than 61 rent-paying villages and one rent-free village, in area 25,542 bighas, with a rental of Rs. 13,662. These villages, with the exception of Jhirna near the Patli Dun, are watered by canals taken from the Khoh, Malan and other small streams.

The present (1907) cultivated area is 37,561 bighas divided among 67 villages, besides the rent-free grant of Ghosikhata, and paying a rent of Rs. 19,051.†

The history of all the villages runs on similar lines. An original lessee was given a lease for a tract of waste jungle, usually

* The Bhabar bigha is a square of 82½ feet. About 6¼ bighas are equal to an acre.

† These figures are for 1907 as the year 1908 was abnormal owing to scarcity and drought.

with a supply of water from a government channel, for the purpose of clearing and reclaiming the land and founding a village, settling tenants and financing them when necessary. He became the sirgiroh, of the new village. When the village was fairly settled, the tenants who cultivated on their own behalf with their own capital, bullocks and seed were given leases, and the sirgiroh became more like an ordinary headman, cultivating his own holding through his servants and produce-sharing tenants, and collecting the rents of the subordinate lessees on which he received a commission of ten per cent. These lessees usually either cleared a portion of the grant for themselves under the sirgiroh's supervision or else paid him for his expense and labour in clearing the land which they took over as a holding.

Settle-ment.

The whole of the estate was formerly government forest and has been settled under the direct management of the Government as landlord. The cultivators thus pay rent and not revenue to the Government. The rents of the estate are at present revised every five years, as it has not yet reached such a stage of fixed development as to enable a settlement for a longer period to be made. At settlement the rent rate for each class of soil in each village is fixed for five years, but the demand of each year varies according to the area actually under cultivation.

Tenur

All cultivators are tenants of the Government, or sub-tenants of the government tenants. In each village the sirgiroh is the head tenant with a number of ordinary lease-holding tenants under him. Ordinarily the only other class of cultivator, apart from the paid servant or ploughman, is the produce-sharing sub-tenant who cultivates part of a sirgiroh's or lessee's land on terms of sharing the produce half and half, his partner providing the seed, bullocks and other necessities and paying the rent, while the sub-tenant only contributes his own labour; another form of similar sub-tenancy is where the sub-tenant provides the seed and bullocks and takes a holding, paying one-third of the produce as rent; the "landlord" pays the government rent out of this one-third.

Irriga

There are no records of early irrigation undertakings; most of the irrigation was formerly carried out by means of mere earthern channels. The first masonry canal was the left or eastern Khoh canal, which was started in 1877-8; the right Khoh canal was

made in 1887-8. The right and left Malan canals were made between 1886 and 1894, part of the cost being contributed by certain zamindars of the Bijnor district, who in return receive one-third of the supply of each of these canals. The Sukhrao canal was made in 1888-9, the Sigaddi canal in 1907-8 and the small Giwain channel in 1902-3. The dates given are those of the actual starting as masonry works of the main or parent-canals; the process of developing their branches and distributaries has gone on continuously since the original canal was started. Practically the whole cultivated area is irrigated by these canals; the unirrigated cultivation amounts to only some 70 acres.

Roads. The roads of the estate include only a few unmetalled cart-roads among the villages of a total length of about 25 miles; the estate is also served by the Kotdwara-Najibabad provincial cart-road, which is metalled as far as the railway station in Panyali village, and by three roads under the forest department which skirt the estate on all sides.

Forest. The estate now includes very little forest; originally the land was covered with bamboos and miscellaneous trees, but never contained good timber forest. A considerable number of bamboos still survive among the villages and along the river channels, but few timber trees now exist beyond a certain number of shisham (*dalbergia sissoo*) and khair (*acacia catechu*) and some much-lopped miscellaneous trees which are of no value for building purposes. As the main object of the development of the estate was to convert the land allotted to it into a cultivated area, the preservation of forest has never been attempted. An attempt is now being made to preserve and improve the surviving forest on some areas which are unfit for cultivation. The income under the head of forests has naturally tended to decrease; it is derived mainly from the export of bamboos, the lease of dues on hides and horns exported and leases for the extraction of stone and ballast from the river beds. The requirements of the villagers are mainly met by concessions in the surrounding reserved forests; cattle are also grazed in the zamindari forests of the Bijnor district which border on the estate throughout its southern boundary.

The income from forests has of late years averaged about Rs. 2,000.

In 1906-7 the cutting of bamboos, which had previously been leased out for the whole estate every year, was suspended to introduce a system of rotation cutting, whereby one-third of the estate is cut over every year.*

BHAINSWARA, a halting place situated in patti Kandarsyun of pargana Dewalgarh. It lies at the foot of two steep ravines on a flat piece of ground in a forest of pine mixed with oak and rhododendron. There is a wooden forest hut here and it is distant 24 miles from Pauri and 6 from Tilkhani, the next forest bungalow on the road to Lohba. From this road a branch road takes off above the village of Dobri and with a steep ascent in zigzags crosses the Kaunkala pass, one and a half miles above the village of Dhanpur (*q. v.*) on the road to Chatwapipal and Karanprayag.

BHATWARON, an encamping ground on the route from Pauri to Ramnagar via Kainyur and Marchula, situated in patti Khatli of pargana Malla Salan, distant 9 miles 7 furlongs from Baijrao and 12 miles from Khireri khal on the way to Marchula.

BHIKAL TAL, a small lake of about 20 acres in extent on the top of a ridge coming down from the Talanti peak (10,883). One portion of the ridge runs down to Niroh and the other to Nandkeshari. The Pindar cuts through both. It lies 10 miles from Phaldya village in patti Pindarpar of pargana Badhan. The lake is singularly beautiful, being surrounded on all sides by a dense forest containing birch, rhododendron and fir, with ringals for undergrowth. During the winter it gets so little of the sun that ice forms sufficiently thick to bear skating on it. The height of the lake is a little over 9,000 feet. It is shallow at the edges and not deep in the middle, having a soft muddy bottom composed chiefly of decayed vegetable matter washed into it during the rains.

BIREHI, a river which rises in the northern glaciers of Trisul, 15 miles east of the village of Ilani in latitude 30° 20′ and longitude 79° 45′. It has two branches which join just below this village. The Birehi has a course east and west and its length is

*From a note by Mr. Stowell, C.S.

about 25 miles; it joins the Alaknanda at a point about four and a half miles above Chamoli. Within the last half century two extensive landslips have occurred in the valley of this river, one in 1868 and the other in 1893. They are separately noticed under the articles Gudyar Tal and Gohna. The valley is very picturesque and the fall of the waters fairly rapid.

BIRONKHAL. The name of a pass near Domaila village, where the Kainyur-Ramnagar road is joined by a road from Banghat. It is a much frequented camping ground, and here are situated also a post office, school and dispensary.

BUNGIDHAR, a halting place on the route from Pauri to Almora situated in patti Chauthan of pargana Chandpur. It is distant 14 miles from Kainyur, the previous stage, and 11 from Kelani, the next stage, which is in the Almora district. There is a dâk bungalow here. Roads branch off from here to Lohba and to Lansdowne via Pokhra.

BYANSGHAT, a halting place on the route from Hardwar to the temples, situated in latitude 30° 3′ 40″ and longitude 78° 38′ 30″ just above the confluence of the Nayar river and the Ganges in patti Banelsyun of pargana Barahsyun. The place derives its name from Byans Muni, an ascetic who in olden days performed penance here, and there is a small temple existing to his memory. There is a suspension bridge of 160 feet span across the Nayar on the main road and a road ascends the valley to Adwani, on the Pauri-Kotdwara line, distant 9 miles, with a very steep ascent as far as Bangani khal (5,400 feet). Another road follows the Nayar via Banghat to Dangal on the Maidi river.

CHAMOLI, a *chatti* or pilgrim shelter and collection of shops situated in patti Talli Dasoli of pargana Dasoli on the left bank of the Alaknanda river. Since 1889 it has been the head quarters of the deputy collector in charge of the northern sub-division. His court house and residence are located on the spur above the *chatti*, and beneath it is an inspection bungalow of the public works department. The original bazar stood on the right bank of the

river, but the Gohna flood washed it away in 1893 and left the rocks on which it stood quite bare of earth. A new bazar has now been laid out on the left bank. Chamoli possesses a dispensary and police outpost, the latter in use only during the pilgrim season. The place is also known by the name of Lalsanga, meaning red bridge, as the wood on the old bridge was coloured with red paint. The new bridge is an imposing erection with a span of 233 feet. The *chatti*, being situated on the pilgrim route, is a busy one from May to November each year, especially as pilgrims travelling from Kedarnath to Badrinath pass it on the upper journey and again return through it on their way to the plains via Karanprayag and Melchauri.

CHANDPUR, one of the eleven parganas into which the district is divided, is bounded on the north by parganas Nagpur and Badhan, on the south by parganas Malla Salan and Chaundkot, on the east by pargana Badhan and on the west by pargana Dewalgarh. It contains eight patwari circles, Chauthan, Choprakot, Ranigadh, Dhaijyuli, Lohba, Malla Chandpur, Bichla Chandpur and Talla Chandpur. The total area is 402 square miles, of which 41 are cultivated; with Rs. 16,259 *khalsa* and Rs. 715 *gunth* revenue. The population in 1901 was 45,941. The revenue in 1815 was only Rs. 5,902 and in 1840 Rs. 9,190. The population has increased fourfold since 1841, when there were only 11,032 inhabitants. This is the central pargana of Garhwal and is characterized by lofty and steep mountain ranges covered with forests, which separate the Pindar from the Ramganga and the Nayar and the affluents of the latter rivers from each other. Its pattis are somewhat diverse in character. Malla and Talla Chandpur possess some fine villages on the lofty slopes around the fort which was the seat of the first rulers of Garhwal, before Dewalgarh and Srinagar were founded. Many of the villages consequently belong to the *purohits* of the rajas, Brahmans of the Khanduri clan. "Lohba from its position on the frontier between Garhwal and Kumaun" writes Batten "was the scene of conflicts between the forces and inhabitants of the two rival districts; and owing to this and similar posts along the whole line of country the Gurkhalis were kept out of Garhwal for twelve years after

they had obtained possession of Kumaun. The people of Lohba are consequently a fine, manly race, and make very good soliders." Patti Choprakot extends from east to west over a large space of wild country and in some parts the villages are but scantily interspersed along the high wooded ranges. The people are for the most part poor, except at the south-east extremity, which borders on Pali in the Almora district and approaches in fertility and population the prosperous state of its neighbourhood. The landholders obtain most of their supplies from the marts at the foot of the hills such as Ramnagar and Kotdwara. In addition to grain, large quantities of hemp of the very best quality are grown, chiefly by the Pavilas, Khasiya Rajputs, who inhabit the northern and western parts of the pargana.

CHANDPUR FORT, situated in Malla Chandpur of pargana Chandpur, is a fort which was the seat of Kanak Pal, the legendary founder of the present Garhwal dynasty, whose descendant Ajai Pal consolidated the raj of Garhwal. It has also given its name to the pargana. The fort is situated on the peak of a promontory formed by the bend of a stream flowing some 500 feet below it. The walls and some of the ruins of the dwelling houses are still standing. The former must have been very strongly built, as they consist of large slabs of cut stone, enclosing a space of about one and a half acres. It is said that a shaft was sunk from the fort down to the stream as water was only procurable from there. Its mouth is no longer to be found near the stream though the entrance of the passage into the fort is still in existence. There are also two flights of steps, each formed of one solid block of stone, which are said to have been quarried in the Dudatoli range, a march and a half distant from the fort, though the actual spot is not now known. It is hard to conceive how these blocks were brought to this place over such a precipitous country, but the legend is that they were carried by two huge goats, both of which died on arrival at the fort. The road from Lohba to Karanprayag passes close by the walls.

CHAUKHAMBA or Badrinath, a peak in Malla Painkhanda overlooking the famous temple of Badrinath. The mountain

attains an elevation o 22,901 feet and its four-square castellated mass is a striking object in the long line of snowy mountains viewed from the south.

CHAUKIGHATA, a small mart situated at the foot of the hills, 6 miles west of Kotdwara at the debouchment of the Malan river. Down the river runs the road from Byansghat through pattis Ajmir and Dhangu. This *mandi* or bazar has been in its present locality since 1869, and there are now over 30 shops in it. The hillmen of the pattis lying above it barter with the merchants, most of whom come from Najibabad. There is a large stretch of cultivated land in the Bhabar to the south, watered by the Malan canals and containing 41 villages. During the months of August and September the mart is closed.

CHAUNDKOT, one of the eleven parganas into which the district is divided, containing seven pattis broken up into five patwari circles, namely Gurarsyun, Jaintolsyun, Northern Maundarsyun, Kimgadigadh-Pinglapakha, Southern Maundarsyun and Mawalsyun-Ringwarsyun. The pargana has on the north parganas Dewalgarh and Chandpur, on the south pargana Talla Salan, on the east pargana Malla Salan and on the west pargana Barahsyun. The total cultivated area measures thirty-one and a half square miles and the revenue demand amounts to Rs. 10,799 *khalsa* and Rs. 491 *gunth*. The population is 27,118.

The pargana is noticeable for the almost entire absence of forests, except towards the fort which gives its name to the pargana. Many of the ridges however have been enclosed and planted of recent years. The grain crops in favourable seasons are remarkably abundant; but save in the cold weather, when the people can proceed to the plains, there is no good market available for the surplus produce. The people have the reputation of being eminently litigious and bear the character amongst the more simple Garhwalis of being almost as cunning and deceitful as the lowlanders. Clay slate, mica slate and limestone with occasional granite are the prevailing rocks.

CHOPTA, a halting place on the route between Chamoli and Ukhimath is situated in patti Malla Kaliphat of pargana

Nagpur in latitude 30° 29″ and longitude 79° 14′ 30″. It consists merely of a collection of huts in a glade of the forest with one rest-house, and is distant 11 miles from Ukhimath and about 18 from Chamoli. The road from Gopeswar is undulating as far as Mandal; thence there is a long and tolerably steep ascent for about 7 miles to Chopta. From the Pangarbasa dharamsala towards the north-east there is a fine view of a snowy peak with its subordinate ranges. Further on the road passes by Bhyunudyar beneath the cliffs forming the southern side of the Chandrasila peak (12,071 feet), on which is the temple of Tungnath, visited by pilgrims who perform the Panch-kedari yatra or pilgrimage. From Chopta there is a perfect view of the line of hills lying above the route to Kedarnath and of the Kedarnath and Chaukhamba peaks themselves. The peaks of Kedarnath seem to be precipices almost perpendicular, no snow finding a resting place on their grey sides. The Chaukhamba peaks recall the crater of an extinct volcano with walls still standing and hollow inside; that facing the south is the smallest and lowest.

CHURANI, or Churanidhar, a village and encamping ground on the eastern Nayar river in patti Talla Iryakot of pargana Malla Salan, lies on the route from Pauri to Dharon. The Nayar is crossed here by a suspension bridge of 171 feet span, and the village also contains a branch post office.

DADAMANDI, a halting place with a travellers' bungalow on the Kotdwara road situated in patti Palla Langur of pargana Ganga Salan, 16 miles distant from Kotdwara and 12 from Banghat, the next stage. The Khoh river flows below it. Up to 1870 the police station at Kotdwara used to be moved to this place during the months of May—October. There are traces of an old station building still in existence and the place is still locally known as *thana*. The march from Kotdwara through Dogadda along the left bank of the Khoh is an easy and very picturesque one. Near Dadamandi stands the Matyali middle school.

DASOLI, a pargana of the district, divided into two pattis or separate patwari circles, Malli and Talli, Band patti being

included in Dasoli Talli. It is bounded on the north by patti Talla Painkhanda and the Alaknanda, on the south by pargana Badhan, on the east by pattis Malla Painkhanda and Pindarpar and on the west by the Alaknanda. Many of the inhabitants of the pargana deal in salt with the Bhotias, who bring it from Tibet; they give in exchange rice, which goes beyond the frontier, and sell the salt at Srinagar. There are extensive forests of fir, pine, cypress and other species distributed throughout the area. The population in 1901 was 19,075 souls.

DASOLI MALLI, the upper circle, with a cultivated area of 4·35 square miles and a revenue demand of Rs. 1,285 *khalsa* Rs. 138 *gunth* and Rs. 817 *sadabart*. The principal villages are Ramni, Ghuni, Bura and Lankhi, and the patwari resides in Pharkhet. The population in 1901 was 8,234.

DASOLI TALLI, the lower circle, with a cultivated area of seven square miles and a population of 10,841 souls. Practically the whole of the revenue is credited to *gunth* (Rs. 1,404) and *sadabart* (Rs. 2,408), only Rs. 30 being the *khalsa* demand. The patwari's chauki is at Mangroli, while Rajbagti, Gandasu, Maithana, Umta and Lasi are the most important villages. The Birehiganga, running westwards, joins the Alaknanda on the left bank, and further south the Nandakini, flowing in the same direction, joins it at Nandprayag. The connecting ridges and spurs of the Kotidanda (10,071 feet), Kotadanda (8,323), Deangan (10,444) and Airdhar (10,354) peaks form the water-parting between the two rivers. To the north of the Birehiganga, the Kuari peak (or Pilkhanta) attains a height of 12,788 feet and Baumdhura one of 11,588 feet; hence a spur runs down westward to Dhangmalkund peak, 8,120 feet. With such lofty mountains, cultivation is mostly confined to the river valleys. The road from Karanprayag through Nandprayag to Badrinath passes in a north-easterly direction along the left bank of the Alaknanda as far as Chamoli and then along the right bank to Hat, where it re-crosses the river by a suspension bridge; while the road from Baijnath and Almora passes down the Nandakini river via Ghat to Nandprayag, where there is also a suspension bridge across the Nandakini river.

DEWALGARH, one of the eleven parganas of the district, bounded on the north by the Alaknanda, on the south by parganas Chandpur and Chaundkot, on the east by pargana Chandpur and on the west by the Alaknanda and pargana Barahsyun. It comprises seven settlement pattis, Bidolsyun, Ghurdorsyun, Bachhansyun, Chalansyun, Kathulsyun, Kandarsyun and Dhanpur. The assessable area of the pargana is 30·63 square miles and the revenue demand Rs. 12,668 *khalsa* and Rs. 671 *gunth*. The Alaknanda, western Nayar and Bachhangadh rivers flow by or through this pargana. The population in 1901 was 36,644. It derives its name from the old temple of the rajas of Garhwal, which still exists and possesses considerable endowments in this district. Srinagar, the ancient capital, is situated within the pargana, as also are the Dhanpur copper mines. Srinagar still carries on trade with Najibabad and the pilgrim road from Hardwar has made it the resort of numerous pilgrims during the season. The Panai and Srinagar valleys are eminently rich and beautiful, and the scenery of the Dhanpur range is particularly striking and picturesque. Grey slate, quartz rock, trap, clay slate, talcose slate and limestone, alpine and dolomitic (the latter containing the copper ores) are the prevailing formations. Dewalgarh was for long the seat of the early rajas, who afterwards acquired the hegemony of the district. The pargana contains Sumari the most populous village in the district. The people have the reputation of being the first among Garhwalis who took to trade along the Ganges valley. Their reputation as merchants was not unsmirched and the story goes that one being reproached with the quality of the milk he offered for sale replied: "It is milk from Sumari and water from Khola (a well-known spring on the way to to the Srinagar market) and Mother Ganges knows if there is any deceit in it."

DHARON, a village on the left bank of the stream of the same name in Patli Dun, is situated on the line of the cart-road from Kotdwara to Ramnagar called the *kandi sarak*, which divides it from Bijnor. This was the former site of the police outpost which is at present stationed at Kalagarh during the months of November to June during which their is fear of dacoities occurring

in the Bhabar. A road runs from Dharon up to the interior through parganas Talla Salan, Chaundkot and Barahsyun.

DHAULI, or white river, a principal tributary of the Alaknanda, rises in pargana Malla Painkhanda near the Niti pass and unites with the Vishnuganga at Vishnuprayag near Joshimath to form the Alaknanda. It has a most tortuous course and is to its junction a roaring torrent almost everywhere. There are three sudden falls in the river between the villages of Malari and Tapoban. The last, which is about six miles above Tapoban, is the greatest. In the space of 250 yards the fall is at least 150 feet. For the first portion of its course the river dashes down its bed under huge boulders, the water at times being hardly visible. The Dhauli is joined in its course by several snow streams, the chief being the Girthi and the Rishiganga, which last rises on the northern side of the Nanda Devi peak. The whole course of the Dhauli as far as Tapoban may be said to be through a narrow pass with almost perpendicular cliffs on either side, several thousand feet high and wild in the extreme. At a stream entering the Dhauli at Suraınthota, the Dhunyas wash sand for gold. They use a primitive looking but neatly made cradle of reed work. Elsewhere the apparatus consists of a wooden boat-shaped trough, two shallow trays of wood, a bamboo sieve, half a gourd, a little quicksilver, some pieces of skin, scales and weights. The trough is four feet long, eighteen inches broad, and as many deep, with a hole near the bottom of one extremity. It is placed on the river's edge with the end in which is the hole somewhat depressed. The sieve is formed of straight pieces of split bamboo laid side by side and is placed across the trough. One of the two persons employed in the operation spreads a trayful of sand upon the sieve while the other turning up its edge so as to prevent any of the sand from being carried off, pours upon it a gourd full of water. This he repeats until the water, having the finer particles of the sand in suspension, filters through the interstices of the sieve and leaves the stones, pebbles and coarser substances on the surface. As a sufficient quantity of these washings accumulates in the bottom of the trough, the water

drains off through the hole in its lower extremity and the mud which is left is then again washed for gold. For this purpose it is taken up in wooden trays and fresh water poured upon it. The trays are then turned round by the hand until the heavier and finer portions are separated, when the largest grains of gold become visible and can be extracted. Then they are wrapped up in the pieces of skin. In order to recover the fine particles of the metal, the remaining portion of the sand is triturated with the quicksilver which is again driven off by heat.

DIURI TAL, a small lake about six miles north-east of the village of Ukhimath, on the ridge of a spur which extends from the Badrinath peak to the Nandakini river below the village. The lake is about 800 yards in circumference. It is very deep on the northern side and is nowhere very shallow. The view from its banks is one of the grandest in the hills, the whole mass of Badrinath being visible from base to summit at a distance of about 15 miles. Early in the morning the snowy range including Badrinath and Kedarnath is clearly reflected on the water. The elevation of Diuri Tal is about 8,000 feet.

DOGADDA, a rising market on the cart-road from Kotdwara to Lansdowne, situated in patti Sila of pargana Talla Salan, 9 miles from the latter place and about 10 from the former. It derives its name from the fact that two rivers meet in its vicinity, the Siligadh and the Khoh. It was of no importance till 1891, when several sites were put up to auction, and about 20 shops were established. Dogadda owes its rise to the making of the cart-road which enabled the shopkeepers to sell grain at nearly the same rates as at Kotdwara; and it received a further impetus in 1908, when the hillmen were obliged to replenish their scanty food stocks with imports from the plains. The greater part of their custom, especially in the hot weather when the stress was severest, was caught by Dogadda. About 60 new shops were then laid out. In ordinary years too this market intercepts much of the chilli and turmeric exports from southern Garhwal. Above the bazar the roads to Lansdowne and Pauri bifurcate. Dogadda possesses an excellent inspection house belonging to the

public works department, a spacious military camping ground, and an outpost of the American Mission from Pauri.

DUDATOLI, a mountain on the borders of pattis Chandpur Sili, Chauthan, and Dhaijyuli in pargana Chandpur. It lies in longitude 79° 15′ east and latitude 30° 5′ north. The highest peak attains an elevation of 10,188 feet above sea level, but the mountain is best known as a summer pasture for the cattle of the surrounding region in both the Garhwal and the Almora districts. Nearly the whole of the mountain is covered with a dense forest consisting of pine and *banj* oak in the lower slopes, yielding to spruce, *tilonj* and *karshu* on the higher ridges. The forest occupies an area of many hundred square miles and is now jealously preserved against the encroachments of cultivators. The range of which Dudatoli forms a part separates the basin of the Pindar from that of the Ramganga, and contain the headwaters of the latter river and of both the Nayars. The forest is fairly well stocked with game, and there is usually at least one pair of tigers harassing the herds of cattle.

DUNGRI, a village in patti Pindarpar of pargana Badhan, also a resting place on the route from Almora by Baijnath to Nandprayag in the tract locally known as Sol patti, is distant 8 miles from Banjbagar and 5 from Tharali. The road hence to Banjbagar ascends the northern face of the Manil hill and enters a magnificent forest of *tilonj* oak, interspersed with cypress and fir. The undergrowth is composed of a species of bamboo known as ringal, which affords refuge to herds of wild pig and other animals. The road thence passes along the southern gorge of the Kuara peak (10,990 feet high), amid the same kind of forest interspersed with grass-covered glades. At the summit of the pass there is a morass containing a little water and known as Sukh Tal, where waterfowl are occasionally met with. To the west the road descends gently down the valley of the Khunigadh and on to Banjbagar, where there is a charming camping ground in a glade of the forest and by the river.

GAMSALI, a village in the Malla patti of pargana Painkhanda on the route from Joshimath to the Niti pass, 15 miles south of

the latter, at an elevation of 10,317 feet above the level of the sea. It is situated in the angle on the right bank of the western Dhauli, where the river, flowing south-west, is joined by a glacier torrent from the north-west and passes from a deep ravine bounded on each side by enormous precipices of gneiss and granite into a picturesque and well-wooded glen. Gamsali is the third largest village in the Niti sub-division of Bhot. A quantity of flat land round the village bears crops of barley, buckwheat and oats. Immediately behind the village, the mountain rises in an almost perpendicular cliff to a height of several hundred feet, while on the opposite side of the smaller stream the cliffs are of the same description ; so to the north-west the eye runs up a valley filled with huge boulders of granite and rests on endless snowy peaks. To the south is an open valley containing other villages and fairly timbered, much resembling a valley in the north of Scotland. In May towards the afternoon avalanches are constantly falling in all directions. From a spot between Gamsali and Bampa, which is a mile to the south, if the visitor looks up at a snow ridge to the south-east about 3 miles off he sees what appears to be the upper half of the figure of a man, the head and shoulders being distinctly visible. The villagers state that they believe it to be an idol that was placed there in olden times, but as no human being can now get up to the spot, it is improbable that their story has any foundation. It is more likely to be a bit of rock jutting above the snow bearing some similitude to the human figure. There is also a curious rhyme current among the Bhotias in illustration of the feeling experienced by one standing on a certain spot and looking first upward and then below. The contrast in the two views thus obtained is most marked. The rhyme runs thus : -

Gamsali dith,	Facing Gamsali,
Bampa pith,	Back towards Bampa,
Chapchya dali	Where stands a chapchya tree
Mamcha bot	and mamcha bot (grows)
Tin sarag	(You will see) three heavens
Tin narak.	And three hells.

GAURIKUND, a *chatti* situated in Malla Kaliphat of pargana Nagpur on the right bank of the Mandagini, eight miles

below the temple of Kedarnath and 12 miles from Phata, the previous stage. Here are hot springs and a tank. The pilgrim has to be shaved at Gaurikund before proceeding to Kedarnath by a road which is little more than a pathway existing through the courtesy of nature. The name is derived from the fact that Gauri or Parvati bathed at this place.

GAURI PARBAT, a peak in Malla Painkhanda, situated in north latitude 30° 43′ and east longitude 79° 42′. It forms one of the chain of peaks which culminates in Kamet and separates the basin of the Alaknanda from that of the Dhauli.

GOHNA, a village in Malli Dasoli on the bank of the Birehiganga, which gave its name to a lake resulting from a great landslip occurring in September 1893. The earliest information was received by the Deputy Commissioner in a patwari's report which merely stated that a mountain had fallen, and was ignored. Later the district surveyor and the executive engineer, who were on tour in the neighbourhood, found that a succession of slips had formed a vast dam 900 feet high, 11,000 feet wide at the base and 2,000 feet wide at the summit, which had headed back the waters of the Birehiganga. Lieutenant-Colonel Pulford, R.E., Superintending Engineer, visited the slip and expressed the opinion that nothing would happen until the accumulated waters topped the barrier, when, he predicted, an enormous mass of water would carry ruin down the Alaknanda and Ganges valleys. This opinion was frequently challenged, other experts suggesting that the barrier, weakened by percolation, might at any time be carried away by the weight of the water behind it, others that when the level of the lake reached the top of the dam the surplus water would flow peacefully over it. Colonel Pulford's view was however adopted by the Government and was triumphantly justified by the event. It was decided to put an assistant engineer to watch the rise of the water and to telegraph warnings down the valley when the catastrophe was approaching, a light telegraph wire being erected for the purpose; posts for the observation of the expected flood were also establish d at Gohna, Chamoli, Nandprayag, Karanprayag, Rudrprayag, Srinagar, Bah, Byansghat, Rikhikesh and Hardwar

The danger limits of the expected flood were marked out by masonry pillars, beyond which all the inhabitants of the valley were warned to retreat. All the suspension bridges over the river were dismantled, while the pilgrimage was temporarily diverted through the interior of the district. Final calculations had decided that the overflow was not to be expected before the middle of August 1894. On the 22nd August Lieutenant Crookshank, the Assistant Engineer, issued a notice that the flood might be expected in 48 hours. Early on the morning of the 25th August the water began to trickle over the crest of the barrier, the flow gradually increasing in volume until about midnight the dam collapsed with a loud crash ; an enormous rush of water followed, lasting until early on the morning of the 26th August, when it was found that the lake had fallen 390 feet and that 10,000,000,000 cubic feet of water had escaped. No lives were lost except those of a fakir and his family who were destroyed, not by the flood, but in a slip of the downstream face of the barrier where they had returned after being forcibly removed. Much damage was done to private and public property all down the river, the town of Srinagar in particular being totally swept away. A permanent lake now exists at Gohna with a sound outlet over the remains of the barrier.

GOPESWAR, a village near Chamoli on the route from Kedarnath to Badrinath, 13 miles distant from Chopta. It is situated on the left bank of the Balasuti stream, a tributary of the Alaknanda. It possesses a fine old temple surrounded by a courtyard in which there is a trident of iron with a shaft of the same material bearing on it an inscription now rather defaced by time. The temple is sacred to Siva and is under the control of a rawal who is a *jangam gosain* of the Birseb sect from the Deccan. It receives a considerable revenue from *gunth* villages in Malla Nagpur. It is no longer, as it formerly was, subordinate to the Rawal of Kedarnath. Gopeswar possesses a fairly flourishing girls' school.

GUDYAR TAL, a small lake situated in patti Malli Dasoli of pargana Dasoli, which lies along one of the two main feeders

of the Birehiganga. Formerly it was at least half a mile long, but in 1868 a landslip occurred and the fresh dam which it formed as well as a portion of the old one gave way, whereby a serious flood resulted in the Alaknanda river. No less than 73 pilgrims who were resting at Chamoli *chatti* were drowned. The lake now hardly deserves the name except from its shape, as the water from the stream that passes through no longer spreads over the surface, because the bed has been almost entirely filled up with shingle and débris.

GUPTKASHI, a village and collection of dharmsalas with a temple of Siva, situated in patti Malla Kaliphat of pargana Nagpur at an elevation of about 800 feet above the right bank of the Mandagini river. It lies on the route to Kedarnath from Rudrprayag via Agastmuni and Bhiri and is therefore generally visited by pilgrims before Ukhimath where they rest on the return journey. The latter place on the left bank stands almost opposite to Guptkashi and is connected with it by a road crossing the river over a suspension bridge of 140 feet span. Guptkashi is a famous place and the gods are supposed to have secretly performed penance here to please Mahadeo; hence its name from *gupta* hidden and *kashi* light. In front of the temple itself is a small tank called Manikarnika kund corresponding to the Manikarnika ghat at the great Kashi, *i.e.* Benares.

GWALDAM, the only tea estate of importance now working in the district. With it is incorporated the Talwari estate, a few miles distant. Gwaldam is situated in patti Palla Badhan close to the border of the Almora district and the roads from Nandprayag and Narayanbagar leading into that district pass through it. There is a village post office at the place.

HATHI PARBAT, a mountain in the range culminating in Kamet, which separates the valley of the Dhauli from that of the Alaknanda. It is situated in Malla Painkhanda in north latitude 30° 42 and east longitude 79° 42, and it attains an elevation of 22,141 feet. In appearance it is supposed to represent a kneeling elephant, hence the name.

HUINL, Huil or Hinuwal, a river rising in the ranges of patti Dabralsyun in latitude 29° 55′ and longitude 78° 39′, drains the country to the south and west of the Nayar drainage area and taking a north-westerly course for about 20 miles turns due west and falls into the Ganges on the left bank at Phulari about 5 miles above where the Ganges debouches into the plains at Rikhikesh. The Huinl forms the boundary between the Dhangu subdivisions on the north and the Udepur pattis on the south. In the cold season it is rarely more than 10 yards wide, but in the rainy season it has a breadth of about 40 yards. There is a good deal of irrigated land along its banks wherever the valley widens out.

JOSHIMATH or Jyotirdham, the place of the Jyotir Ling of Mahadeo and the winter quarters of the Rawal and other officials of Badrinath temple, is situated in pargana Painkhanda in north latitude 30° 33′ 46″ and longitude 79° 36′ 24″ at an elevation of 6,107 feet above the level of the sea and about 1,500 feet above the confluence of the Dhauli and Vishnuganga. This confluence is about one and a half miles distant. The population in 1872 was 455, in 1881 it was 572 and in September 1900, when the Badrinath officials were still away at that temple, 468. The site lies on the left bank of the united streams, here known as the Alaknanda, in a hollow recess and on a declivity descending from the Jhali peak. It is sheltered on every side by a circular ridge and especially so to the north where a high mountain intercepts the cold blasts that rush down from the Himalayas. The entrance to the town from Vishnuprayag is up a bank cut into steps faced with slate or stone, and the streets of the place are paved with the same materials, but very irregularly. The houses are neatly built of stone and are roofed with shingles or slates. Amongst them are the well-built residences of the Rawal and other priests of the Badrinath temple, who live here from November to the middle of May, during which time the approaches to the temple that they serve are buried under snow. The building containing the image of Narasinha is more like a private house than a Hindu temple. It is built with gable ends and covered in with a sloping roof of plates of copper. In front of it there is a large open square

having a stone cistern, supplied by two brazen spouts, which yield a never-failing flow of water derived from a stream descending from a hillside to the south of the village. In former days pilgrims used to rest in this square, but now they resort to the dharmsalas, many of which are to be found in the main street. A collection of temples, bearing marks of great antiquity, extends along one side of the square, being ranged along a terrace about ten feet high. In the centre of the area is a temple sacred to Vishnu, in a walled space 30 feet square. Several of the temples are much dilapidated, having been partially overthrown by earthquakes. The temples of Vishnu, Ganesh, Surya or the Sun and the Navadevi have suffered least. The statue of Vishnu is of black stone in a very superior style of workmanship. It is about seven feet high and is supported by four female figures. There is another image of brass with wings attached and wearing the sacred Brahminical thread, which some assert to be of Bactrian-Greek workmanship. The image of Ganesh is two feet high, well carved and polished. In the town is a line of watermills, placed one below the other at intervals of fifteen or twenty yards and turned by one stream, which flowing from the hillside above is supplied to them in succession by a communication through troughs of hollowed trunks of fir. Joshimath is an important station on the road to both Mana and Niti, and a cross road from Ramni by the Khulara pass ends here. The inhabitants are temple priests, traders and cultivators. There is a guest house belonging to the temple, an inspection house of the public works department, a pilgrim dispensary and a police station, the last named being used only during the season. The place is not so flourishing as it was, and bears evident traces of its desertion by the Bhotias, who now carry their wares to Nandprayag and places further south.

A curious legend is related in connection with the temple of Narsinha:—" A descendant of Basdeo, an early raja of this region, went to hunt in the jungles one day, and during his absence Vishnu, in his man-lion incarnation as Narsinha, taking the shape of a man, visited the palace and asked the wife of the absent prince for food. The rani gave the man enough to eat and after eating he lay down on the raja's bed. When the raja

returned from the chase, and found a stranger asleep on his bed, he drew his sword and struck him on the arm, but lo! instead of blood milk flowed forth from the wound. The raja was terrified at the omen and called his rani to counsel. She said: No doubt this is a god: why did you strike him? The raja then addressed Narsinha and asked that his crime might be punished. On this the deity disclosed himself and said: I am Narsinha. I was pleased with thee and therefore came to thy darbar; now thy fault shall be punished in this wise: thou shalt leave this pleasant place Jyotirdham, and go into Katyur, and there establish thy home. Remember that this wound which thou hast given me shall also be seen on the image in thy temple, and when that image shall fall to pieces, and the hand shall no more remain, thy house shall fall to ruin and thy dynasty shall disappear from amongst the princes of the world."

When the arm falls off (it is said to be diminishing daily) the road to Badrinath will, it is foretold, be closed by a landslip, and a new Badri will appear at Tapoban in the Dhauli valley or Adbadri.

KAINYUR a travellers' bungalow and halting place on the main route from Pauri to Almora in patti Choprakot of pargana Chandpur, is situated on the right bank of the eastern Nayar river distant 8 miles from Saknyana the previous stage, and 14 miles from Bungidhar the next stage on the way to Almora. A road branches off from here to Ramnagar via Marchula, on which the next halting place is Baijrao (*q. v.*). Kainyur was at one time the head quarters of a tahsil now no longer existing.

KALIMATH, a sacred place of resort situate in patti Malla Kaliphat of pargana Nagpur on the left bank of the Kali river about one mile north of its confluence with the Mandagini. The temples at Kalimath are sacred to the goddess Durga, and goats and buffaloes are sacrificed to her. The inhabitants of some of the villages in the neighbourhood dedicate their first born girls to the goddess, and they are called the ranis of the goddess. They generally become the concubines of the temple priests.

KALIPHAT MALLA, a patti of pargana Nagpur which with pattis Bamsu, Parkandi and Maikhanda has been a separate patwari circle since 1862. On the north lies Tibet, on the south Talla Kaliphat and Khader, on the east Talla Painkhanda and Malla Nagpur and on the west Tehri-Garhwal. The word Kaliphat is derived from Kali, a river which rises near Kedarnath and joins the Mandagini at Guthna, and *phat*, a bank. The circle possesses an assessable area of 5·71 square miles and nearly the whole of the revenue is credited to *gunth* and *sadabart*, the figures being as follows: *khalsa* Rs. 521, *gunth* Rs. 1,447 and *sadabart* Rs. 1,528. It is occupied by the valleys of the Mandagini, Kaliganga and Madmaheswar rivers. The first named lies in the extreme west and its valley carries the road to the temple of Kedarnath. The Basukhi and Sain from the north-west join the main stream at Somdwara. Thence the course is south-east through a number of villages to Guthna, where it receives the Kaliganga, and Nala where the Biera joins it. The Kali drains the centre of the tract, which consists of lofty hills uninhabited except during the grazing season. The Damar or Banar with its source near the Mandani temple flows into the Kali. The tract between the Barar and Madmaheswar is traversed by paths to the temples of Mandani and Madmaheswar, but contains no villages of any importance. The patwari's chauki is at Guptkashi and the principal villages are Nala, Lamgondi, Trijugi, Parkandi and Dangwari. The temple of Kedarnath stands within this circle. The population in 1901 was 10,391.

KALIPHAT TALLA, also a patti of pargana Nagpur, is bounded on the north by Malla Kaliphat, on the south by Talla Nagpur, on the east by patti Khader and on the west by Tehri-Garhwal. The cultivated area measures 6·31 square miles and the revenue amounts to Rs. 3,564 *khalsa* and Rs. 304 *gunth*. The patwari resides at Chandrapuri, while the more important villages are Biron, Jalai, Kandara and Jagai Nag. The Hardwar-Kedarnath road passes northwards through the western portion of this patti, along the left bank of the Mandagini river by Agastmuni, Nakot, Chamoli, Hat, Bhatwari and Bhiri. At the last place it is joined by a road from Karanprayag. The cis-Mandagini portion comprises the valley of the Kyunjgadh, a tributary of the

Mandagini, lying between Khatarsami (8,478 feet) and Ragshi (10,091 feet) is closely cultivated. The trans-Mandagini portion contains the British part of the valley of the Darmagadh, a considerable feeder of the Mandagini, which it joins on the right bank near Bashti.

KAMET, a mountain in patti Malla Painkhanda, pargana Painkhanda, situated at east longitude 79° 35′ and north latitude 30° 55′, attains an altitude of 25,443 feet. It is the culminating point of the range that forms the water parting between the Vishnuganga and the Dhauli river. An attempt was made to climb Kamet in 1907 by Major Bruce, Mr. Mumm and Dr. Longstaff. They first proceeded from Niti in the Dhauli valley up the Raikana torrent and the Raikana glacier. From the latter they turned off to the east along the course of a smaller glacier rising below the summit itself, and reached a height of over 20,000 feet on the left side of the glacier. Further progress was found to be impossible; the upper Kamet glacier lies in so narrow a gorge that it would be impossible to escape the ice avalanches that constantly fall into it. Reconnaissances were also made without success from the west up the Ghastoli and Khaiam glaciers, above Mana.

KANSKHET, where there is a middle school, is situated on the Pauri-Kotdwara road, distant 3 miles below Adwani (*q. v.*) in patti Manyarsyun-west, of pargana Barahsyun.

KARANPRAYAG, one of the five sacred confluences of the Alaknanda, where the latter river absorbs the Pindar. The *prayag* is situated on the left bank of the Alaknanda just where the two rivers meet, while the *chatti* and bazar are on the left bank of the Pindar approached from the other side by a suspension bridge of 221 feet span. The present site of the bazar is much higher above the river level than the old one which was washed away in 1894 by the Gohna flood. There is a pilgrim dispensary and a police station, the latter in use only during the season. Karanprayag is situated on the return route from the temples to the plains, distant 11 miles from Nandprayag, the previous stage. The name is derived from Raja Karna who here, according to the Manasa-Khanda

"worshipped the sun and received from him whatever he desired—gold and jewels and wealth." Its elevation above the sea is about 2,300 feet. Above the bazar and to the east of it is an inspection bungalow of the public works department.

KEDARNATH, a temple situated in patti Malla Kaliphat of pargana Nagpur, lies in north latitude 30° 44′ 15″ and east longitude 79° 6′ 33″ at an elevation of 11,753 feet above the level of the sea. The temple is built on a ridge jutting out at right angles from the snowy range below the peak of Mahapanth. It stands near the head of the valley of the Mandagini on a level spot, and is a handsome building with a neat façade adorned on either side with niches and images. A tower behind built of grey stone and surmounted by a gilded pinnacle forms the adytum of the shrine. In front of the temple are rows of masonry houses owned by pandas, for the accommodation of pilgrims, while the pujaris or priests live to the right of the building. The present structure according to Mr. Traill is of recent construction, the original building having fallen to ruin. It is dedicated to Sadashiu, the invisible form of Shiva, who fleeing from the Pandavas took refuge here in the form of a buffalo, and finding himself hard pressed dived into the ground, leaving his hinder parts on the surface; these are still an object of adoration. The remaining portions of the god are worshipped at four other places along the Himalayan chain; the arms (*bahu*) at Tungnath; the face (*mukh*) at Rudrnath; the belly (*nabhi*) at Madhmaheswar, and the hair (*jata*) and head at Kalpeswar. These together form the "Panch Kedar," the pilgrimage to which places in succession is a great ambition of the Hindu devotee. The priests officiating at Kedar, Guptkashi, Ukhimath and Madhmaheswar belong to the establishment of the *math* at Ukhimath, the head of which is the Rawal of Kedarnath. They are *jangam gosains* (*lingaits*) of the Birseb sect. At the other temples—Tungnath, Trijugi and Kalimath, the priests are local hillmen under the control of the Rawal. There are two routes to Kedarnath, one via Karanprayag, Chamoli and Tungnath and the other from Hardwar via Srinagar and Rudrprayag along the Mandagini river. These routes meet near the village of Nala about two miles above Guptkashi. Beyond Ukhimath and

Guptkashi (which face each other on opposite sides of the Mandagini) the stages are Phata and Gaurikund. From the latter place to Kedarnath (11 miles) the road is bad, intersected by numerous ravines and very undulating, but the scenery is as wild and rugged as any to be found in the Himalayas. There are hot springs at Gaurikund, which are looked upon with veneration. From time immemorial pilgrims from all parts of India have toiled through these mountains to visit the three great shrines of Gangotri, Kedar and Badri, all placed on the great group of snowy peaks, that separate the Alaknanda from the Bhagirathi river, which together form the Ganges. The second of these rivers, though much inferior in volume, is considered in the Puranas to be the more sacred. Although however the reputation of the Alaknanda does not equal that of the Bhagirathi, it is on the banks of the former that the most celebrated places of Hindu pilgrimage are to be found. Gangotri, a little below the spot where the Bhagirathi issues from its glacier, at the place where, according to Hindu mythology, the heaven-born goddess first descended upon the earth, is a spot of the highest sanctity, but it fails to attract the crowds of pilgrims who every year visit the sources of the Alaknanda. How this preference of the less sacred stream had its origin cannot now be determined. Possibly the superior sanctity of the Bhagirathi may be only the poetical invention of a later age, which has failed to shake the traditional feeling, older than any books, that salvation was to be found more easily on the banks of the greater river.

Pilgrims begin to enter the hills after the fair at Hardwar. This great assemblage is held on the first day of the month of *Baisakh*, the commencement of the Hindu solar year, which corresponds with the entry of the sun into the sign of Aries or Mesha. According to our reckoning this takes place about the 25th of March. But in consequence of the erroneous calculation by the Hindu astronomers of the true length of the solar year, similar to the error which made it necessary for Pope Gregory to omit ten days from the calendar, the great day of the fair at Hardwar now falls on the 11th or 12th of April. Every twelfth year the planet Jupiter (Brihaspati) is in the sign of Aquarius (Kumbha) at the time of the sun's entry into Aries. These are occasions of peculiar sanctity and the fairs in these years, called *kumbh* after the

Sanskrit name of Aquarius, are attended by vast multitudes of people. Every sixth year at the half *kumbh* the number of visitors is also very great. On the day of which the Hardwar fair is the anniversary the Ganges is said to have first appeared on the earth. Pious pilgrims flock from all parts of India to bathe in the sacred river and wash away their sins. At the present time a large and very conspicuous portion of the bathers at Hardwar come from the Punjab and from distant parts of Rajputana. A small portion only of the bathers at Hardwar accomplish the pilgrimage to Kedar and Badri. The more bigoted Saivas visit Kedar only, and some Vaishnavas in like manner only pay their devotions at Badri ; but the great mass of pilgrims attend both shrines. The Vaishnava worship is so much more popular in upper India that Badri is considered by far the more sacred of the two. There is little doubt that to Sankara Acharya is due the re-establishment of the efficacy of pilgrimages to the two great shrines, and it is probable that these institutions have retained to the present day much of the organisation which Sankara himself gave to them. The institution of which the temple at Kedarnath forms a part is a good example of what we may fairly call the monasteries of the Hindus. The constitution of these establishments has been well described by Professor Wilson : " The maths, asthals or akharas " he writes " the residences of the monastic communities of the Hindus, are scattered over the whole country ; they vary in structure and extent according to the property of which the proprietors are possessed ; but they comprehend a set of huts or chambers for the mahant or superior and his permanent pupils, a temple sacred to the deity whom they worship, or the samadh or shrine of the founder of the sect, or some eminent teacher ; and a dharamsala, one or more sheds or buildings for the accommodation of the mendicants or travellers, who are constantly visiting the math ; ingress and egress are free to all and indeed a restraint upon personal liberty seems never to have entered into the conception of any of the legislators of the Hindus. The math is under the entire control of a mahant, with a certain number of resident chelas or disciples ; their number varies from three or four to thirty or forty, but in both cases there are always a number of vagrants or out-members ; the resident chelas are usually the elders of the body with a few of

the younger as their attendants and scholars; and it is from the senior or more proficient of these ascetics that the mahant is nominally elected. In some instances however where the mahant has a family, the situation descends in the line of his posterity; where an election is to be effected, it is conducted with much solemnity, and presents a curious picture of a regularly organized system of church polity amongst these apparently unimportant and straggling communities." Kedarnath, although of more importance than most institutions of the kind, is in all essential points a math similar to those which have been described in the preceding extract. The community belongs to the sect of Saiva ascetics called Jangama; and the mahant, or, as he is here called, the rawal, as well as his chelas, must all be people of Malabar. The Jangamas here, as everywhere else, worship Siva, or as he is more commonly known in these parts of India, Mahadeo under the form of the linga. Throughout these mountains Mahadeo, the god of everything terrible and destructive, is always represented by this emblem, a symbol of the belief that destruction implies generation in some other form, the belief that has the scientific basis that " nothing is lost." The worship has often been made a matter of reproach to Hindus, but in this part of India, as a rule, such accusations have no foundation. The worship of the linga, is free from all grossness and, to use the words of Professor Wilson, " it requires a rather lively imagination to trace any resemblance in its symbol to the object which it is supposed to represent." The ceremonies to be observed by the pilgrims are very simple, consisting of a few prostrations, an embrace of the linga and the hearing of a short ritual and discourse from the officiating priest. The pilgrim carries away in copper jars from the sacred pool some water which is highly charged with iron and sulphur. Four miles from the temple is a precipice on the way to the Mahapanth peak known as the Bhairon Jhap, from which in former times devotees used to fling themselves; but this practice has been put a stop to. Those who designed to do the deed used to inscribe their names on the walls of the neighbouring temples.

The income of the temple of Kedarnath is derived from endowments consisting of 60 villages in this district with a

gunth revenue of Rs. 1,090 a year, 45 villages in the Almora and Naini Tal districts with a *gunth* revenue of Rs. 808 a year, and a few in the native state of Tehri-Garhwal with an annual revenue of Rs. 250. Besides this the offerings made at the temple amount to Rs 9,000 a year, but the temple is very much poorer than that at Badrinath. The pandas of Kedar extract from the pious a far larger income than that falling to the temple. Their total earnings may be estimated at about Rs. 40,000 a year.

The Rawal exercises temporal rather than spiritual authority over the affairs of the endowment. He never officiates himself at the shrine of Kedarnath, but appoints chelas to perform the service there and at the subordinate temples, himself remaining at Ukhimath. He is assisted by a council consisting of the temple officers and the *padhans* of *gunth* villages. This council usually selects the Rawal, great weight being attached to the nomination of the deceased incumbent. The temple of Kedarnath remains open from May to October and during the winter the temple establishment retires to Ukhimath.

KHOH, a river rising in the Langur range of hills at an elevation of 6,400 feet above the level of the sea, in latitude 29°.56′ and longitude 78° 40′ east in pargana Ganga Salan. The Khoh takes a direction south-west by west and passing Dogadda debouches from the hills at the mart of Kotdwara, from which place canals have been taken off on both sides of the river for the purpose of irrigating the Bhabar. After leaving Kotdwara it is joined by the Saneh river and flows towards Nagina in the Bijnor district, where a canal is taken from it; finally after a course of about 65 miles it joins the western Ramganga. At Kotdwara during the cold season the Khoh has a volume of about 40 cubic feet per second, but in the rains it is a deep and rapid river.

KOTDWARA, the most important market in the district, the only other to compare with it being Srinagar on the pilgrim route. It is situated at the foot of the hills on the left bank of the Khoh river. Now (in 1910) a town administered under the Bengal Chaukidari Act, 1856, its beginnings were very small, consisting

before 1870 of only 25 or 30 houses and shops. The population at the census of 1901 numbered 1,027 souls. The establishment of a cantonment at Lansdowne has had much to do with the increase in its prosperity together with the extension of the railway from Najibabad to within one and a half miles of the town. The town has however already passed its prime and is waning rapidly as Dogadda waxes. It is distant 48 miles from Pauri, and seventeen and a quarter from Lansdowne. The majority of the merchants come from the Bijnor district, Najibabad in particular. The rest are hillmen who have taken to trade. The shops are not now, as they used to be, shut during the rainy season, as the sanitary conditions of the town have much improved. It may be said that the residents of the southern sub-division of Garwhal (except those of the more eastern pattis, who go to Ramnagar) do all their shopping at Kotdwara during the cold weather, where they make their puchases of cloth, gur, salt, cooking utensils and other miscellaneous articles. The town is a busy scene during the winter months, for then the head quarters of the office of the Ganges forest dvision is located on the other side of the river; there consequently is a large influx of contractors and coolies in November, the former taking contracts for the sale of wood, bamboos and other forest produce, and the latter earning wages under the contractors. The Bhotias too bring down from the passes borax for export and take back dal, sugar, tobacco, gur and cloth for sale in pargana Nagpur and beyond the frontier. Their pack animals are principally sheep and goats, each of which carries a saddle (*phancha*) containing a bag on either side, the average load being 10 seers. Cloth is however taken up on pack ponies. Kotdwara too is the head quarters of the Bhabar administration, and the superintendent of the government estate resides here. There is a police station, a dispensary and also a good dâk bungalow (with a khansaman). Considerable erosion by the river of the left bank has occurred within the last few years and spurs have lately been erected to protect the town. The American Methodist Episcopal Mission has a branch here. The principal rail-borne imports are grain, cloth, gur, salt and iron and copper vessels, the chief articles of export being mustard, borax, rapeseed, chillis, turmeric and forest produce.

LALDHANG, a forest station at the mouth of the Rawasan river in patti Bichla Udepur of pargana Ganga Salan, situated in latitude 29° 52′ and longitude 78° 21′. The Bijanagar peak on the right bank of the river rises to a height of 1,982 feet. The road to Kotdwara branching off from the Srinagar-Hardwar line crosses the Rawasan close to the station. The village of Laldhang itself lies in the Bijnor district.

LANSDOWNE in patti Malla Sila of Talla Salan is a cantonment established in 1887 and now capable of holding four full battalions of native infantry, Gurkhas and Garhwalis. It is situated at a distance of 28 miles by cart-road from Kotdwara railway station, the Najibabad-Kotdwara branch bringing it into direct communication with the plains. The ridge (Kalondanda) on which the cantonment stands varies from 5,500 to 6,000 feet above sea level and is well covered with a forest of pine and oak trees. The cantonment stretches along it for over three miles and is roughly divided into two portions by the gorge at the summit of the Pauri-Lansdowne road where stands the church. To the south and east lie the barracks, parade ground, bazar and offices of one regiment and to the north and west those of the other. The top of the ridge is occupied by the officers' bungalows built by their own agency. There are no professional house-owners. The sadar bazar lies to the south of the ridge and near it are the deputy collector's house and court, as Lansdowne is the head quarters of the southern sub-division of the district. Below the club stand the dâk bungalow (with khansaman) and the public works department inspection house. The cantonment is well intersected by roads excellently maintained. The pay of the troops is brought from the Bijnor treasury and the greater portion of the supplies comes from the plains. As far as Fatehpur the cart-road is in daily use; beyond that point it is continued by a bridle path of easy gradient. The cart-road however is now (1910) complete as far as Lansdowne. For the carriage of government stores Smith, Rodwell and Co. have agencies at Lansdowne and Kotdwara, while for the convenience of travellers there are coolie agents at both places. Lansdowne is the head quarters of the deputy conservator of forests of the Ganges division. The

surrounding pattis have greatly benefited by the establishment of the cantonment and much money finds its way annually into the villagers' pockets. The demand for ghi alone is very large.

The affairs of the cantonment are administered by a committee. In 1908 its income amounted to Rs. 15,907 raised chiefly by taxes on houses (Rs. 1,516), tax on trades and professions (Rs. 1,207), conservancy tax (Rs. 1,832), and sale of fruit and grass (Rs. 1,923), with a grant-in-aid (Rs. 6,809) from the Government. The chief object of expenditure was conservancy, which absorbed Rs. 8,747; rupees 1,181 were spent on works. At the 1901 census the population was 3,943.

LOHBA, also known as Gairsen and Rithya from the neighbouring lands of those names, is situated in patti Lohba of pargana Chandpur in north latitude 30°3′ and east longitude 79° 20 on the left bank of the Ramganga river, distant 14 miles from Ganai and eleven and a quarter miles from Adbadri. The tea estate at Silkot in the neighbourhood is still worked. There used to be a peshkari at this place, but it was abolished in 1878. Lohba is named from the fort of this name which is to be seen on the summit of a high conical hill on the boundary between Kumaun and Garhwal. There is at Lohba a bungalow belonging to the public works department. Not far from it is the *chatti* of Dhunarghat, where there is a post office and during the pilgrim season a police outpost. The American Methodist Episcopal Mission has a branch at Darimdala near Silangi on the main road.

MADHMAHESWAR, a temple situated 18 miles north-east of Guptkashi, at the base of the Chaukhamba peaks (22,000 to 23,000 feet). It is one of the Panch Kedar and is subordinate to the Rawal of Kedarnath. The place is but rarely visited by plainsmen on their tour of pilgrimage. It is held in greater veneration by the residents of pargana Nagpur. The temple is closed during the winter when the silver image of Mahadeo is taken down to Ukhimath. The stone linga remains permanently in the temple. Rajputs living at Ukhimath dedicate their first-born girls to Madhmaheswar and they become the concubines of the priests. The girls are called the ranis of Madhmaheswar.

MALAN, a river which bears this name when it debouches from the hills at Chaukighata (*q. v.*); above this it is known as the Saurgadh, the principal source being among the ranges to the east of Saur village in patti Walla Ajmir. From it just below the mart of Chaukighata are taken out canals to irrigate the Bhabar. A certain portion of the water passes into the Bijnor district below the *kandi sarak*, where there are a few villages, mere clearings in the middle of the jungle.

MALARI, the largest village in the Niti valley, situated in Malla Painkhanda of pargana Painkhanda in latitude 30° 41′ 10″ and longitude 79° 56′ east, distant about 30 miles from Joshimath and 11 from Niti on the route to the pass. The site is pleasing, lying as it does in the eastern angle of a small triangular plateau, about a mile long and half a mile broad, of which two sides are bounded by streams and the other by mountains covered in winter to the summit with a bed of snow, thin on the projecting parts but deep in the ravines. There are 113 households in the village with a population of 590 souls. The houses are built of stone and roofed with deodar slats or birch bark. The majority of the inhabitants are Tolchas, who are not found above this village; the remainder are Marchas, comprising some ten families. The latter clan peoples the villages of Niti, Bampa and Gamsali; the former the villages of Malari, Kosa and Kurkuti, where the majority of the people are Joharis. Joharis also possess the neighbouring village of Mahargaon. Originally they immigrated from the Johar valley in the Almora district, and they are in the popular estimate the best Bhotla clan. Next in order of respectability come the Tolchas, then the Marchas and lowest of all the Khampas who are a pure Tibetan tribe now domiciled in Garhwal. Owing to the deterioration of Niti village Malari has risen in importance and there are now (1910) more than double the number of houses that there were in the time of Mr. Batten. The cultivation is comparatively extensive, and the fields well terraced, containing for the most part, wheat, barley, *china* and *phapar*. In November the inhabitants, who are all traders, move down to temporary encampments in the Alaknanda valley, which they occupy until May.

MANA, a village on the Saraswati river, an affluent of the Alaknanda, in pargana Painkhanda, is situated at an elevation of 10,560 feet above the level of the sea, about 30 miles from the pass of the same name, also called Chirbitya-la and Dungri-la, which has an elevation of 18,650 feet and lies in north latitude 30° 45′ 2″ and east longitude 79° 27′ 4″. The necessity of travelling for many miles over the vast accumulations of loose rock and débris brought down by ancient glaciers, or which violent atmospheric changes have thrown down into the valley from the mountains on both sides, renders the Mana pass one of the most difficult in this part of the Himalayas. Its actual elevation too exceeds that of any other pass in the division which leads into Tibet. The road or rather the track, for there is generally nothing that even deserves the name of a path, ascends constantly the main valley of the Saraswati until it reaches the water-parting which forms the boundary with Tibet. The pass itself is somewhat remarkable. There is no apparent ridge to be crossed at the head of the Saraswati, and the latter part of the ascent still lies through a ravine, the inclination of which becomes less steep as we approach the line of water-parting. The pass itself is a narrow valley filled with the nevé of glaciers and bounded on each side by mountains almost entirely covered with perpetual snow. This valley is apparently almost entirely level for about a quarter of a mile, and the great bed of snow which it contains gives rise to two glaciers, which descend in opposite directions, one northwards into Tibet, the other southwards into the valley of the Saraswati, of which it constitutes one of the principal sources. So slight is the inclination of the ground near the pass, or rather of the great mass of snow which covers it, that one crosses the line of water-parting without observing that one has done so. The Tibetan glacier descends rapidly for about two miles, or perhaps less, into a valley bounded on both sides by high mountains generally bare of snow in the summer months, to Poti, the first encamping ground in Hundes, situate about a thousand feet below the pass. Below Poti, hardly a vestige of snow is to be seen. There is no extensive view from the pass in any direction. To the north the plain of Hundes is hidden by bare brown hills with rounded outlines, and on the three other sides nothing can be seen but the overhanging snow peaks and

precipices of the Indian Himalaya. On the southern side near the pass there is a much greater quantity of snow than we generally find so close to the Tibetan frontier, a phenomenon caused by the immense elevation which the peaks close to the line of water-parting here attain. The highest mountains are commonly found some 20 to 30 miles further south, but here there is an exception to the general rule, for a cluster of great peaks rise immediately above the line of water-parting at the extreme northern limit of the belt of perpetual snows above the western sources of the Saraswati; the culminating point of the cluster, called Kamet, attains an elevation of 25,443 feet above the level of the sea. No other peak in this tract attains an equal height except Nanda Devi. The glacier which descends from the pass on the southern side terminates about a mile below near the pool called Deo Tal at an elevation only a few hundred feet less than that of the pass. This pool which is but a few hundred yards long, and finds a place in some of the older maps, is filled with the drainage of the glacier just mentioned and is prevented from running off partly by a contraction of the bottom of the valley, caused by a great eruption of granite, and partly by the lateral moraine of a glacier which descends from the west and enters the main valley a little lower down. From Deo Tal to Ratakun (red corner) hardly a sign of vegetation exists except here and there some tufts of grass, a few stunted primulas, saussureas and other plants found at great elevations. The path lies constantly over the moraines of glaciers which descend from every lateral ravine, or over the ancient accumulation of the great glacier which must once have filled the main valley itself.

Mana is the only purely Bhotia village in the valley. Its inhabitants are called Marchas, a name also given to the Bhotias of the Niti valley. The Hunyias call them Dungni-rongpas from Dung, the name for Mana, and Rong, the tract near India. The people of the other villages are not Bhotias, and do not differ from the inhabitants of the parganas to the south. Their intercourse with the Marchas however rather causes them to be looked down upon by the Khasiyas. These villages are Bamani, close to Badrinath, Khiroh, Pandukeswar, Bhyundar and Paturi. Pandukeswar and Bamani belong chiefly to one set of people, the inhabitants living at the latter village during the hot season and returning in

the winter to Pandukeswar with the Marchas in the Badrinath establishment. Their caste is called Duryal, but they are included under the generic term Khasiya. There are about 128 houses in Mana village built of stone, two storeys high, and covered with deal planks. The inhabitants are of the Mongolian type, middle-sized, stout and well-made with olive complexions enlivened by ruddiness on the cheeks. The dress of the men consists of trousers, a loose frock fastened round the waist with a cord and a cap, all of wool. The women instead of trousers wear a loose under-garment, their upper garment differing nothing from the men's except in its finer texture and gayer colours. Their head-dress is of cloth wrapped round the head in the form of a turban; their necks, ears and noses, as well as those of their offspring, are covered with a profusion of beads, rings and other trinkets in gold and silver. The Bhotias are now not nearly so well off as they were, owing to the falling off of the wool and borax trade and the comparative difficulty of their pass into Tibet; there are now few wealthy men. Formerly it is said one of them lent the Raja of Garhwal two lakhs of rupees to assist in repelling the Gurkhalis, now there are very few worth ten thousand rupees.

The confluence of the Alaknanda and Saraswati rivers just below Mana is called Keshoprayag, and here is a temple sacred to Vishnu. Here too is the residence of Manibhadra, whose followers were vanquished by one of the Pandavas. In this connection the following sloka is of interest; it occurs in the Badri Mahatmya, where Mahadeo is reciting to Parvati ;—

Sloka.

Keśavaprayágaśrutaṃ
Kshetránám paramaṃ matam,
Mahávishṇuścha tatraiva,
Manibhadráśramastathá ;
Purá yatra varatano !
Bhímaseno-jayad ripún,
Gandharvákhyán mahábhágo,
Maṇibhadrapuraḥsarán.

Translation.

Close to the meeting of the sacred streams
There stands a holy shrine, Keshab its name,

None holier, for 'twas here great Vishnu dwelt,
And Manibhadra too of glorious fame.
Yea on this very spot, oh beauteous one!
Bhimsen the noble Pandava of yore
His foes the Gandharas in fight o'ercame,
And Manibhadra captained them.

MANDAGINI, a river of Malla Kaliphat in pargana Nagpur, rises near the Tehri boundary at the south-eastern base of the Kedarnath peak in north latitude 30° 47′ and east longitude 79°8′. It holds a course generally southwards and receives on the right bank the Sini river near Somdwara, on the left bank the Kali river below Kalimath and a little lower down on the same bank the Madmaheswar or Bira river near Nala. Still further south the Agaskamni, Kyunjgadh and Surgadh join the Mandagini on the left bank and on the right bank are the Pabi, Gabini, Byun, Raun, Darma and Lastar torrents. Continuing to flow in a southerly direction, the river falls into the Alaknanda on the right bank at Rudrprayag after a course of about 45 miles. The water-parting ridge to the west of the Mandagini forms the boundary with Tehri-Garhwal as far as Agastmuni, thence to Rudrprayag the Mandagini itself and further south the Alaknanda. The forests along its banks have afforded in years gone by large numbers of sleepers to the East Indian Railway.

MANDAL, a river rising on the southern slope of the ranges lying in the eastern parts of pattis Talla Badalpur and Painon of pargana Talla Salan, has three main sources. The most westerly rising near Maraura in Talla Badalpur takes a south-south-easterly direction through Painon and passing the village of Jamri and Dobrya joins near Jhart the main branch which rises close by in the eastern declivities of the Dhargaon range. The third branch drains the eastern part of patti Painon and flowing nearly due south by Badiyargaon and Kotri joins the main stream at Raunderi. The united stream flows nearly due east through pattis Painon, Bungi and Bijlot with a course of about 20 miles until it joins the Ramganga on the western bank at the head of the Patli Dun above Sarapdhuli in latitude 29° 34′ 10″ and longitude 79° 8′ 25″,

The Pokhra road follows the Painon branch and another road runs up the right bank of the Mandal leaving it at Rathuadhab, opposite Jhart, where it runs up the Nuni *sot* and over the watershed into the Haldgadi valley. In the dry season the Mandal is a petty stream with a breadth of about 24 feet, but its bed is 50 or 60 feet broad showing that it becomes a river in the rains. For the last ten miles of its course it has a very slight fall. Its water is largely used for irrigation, there being many fine flats along its banks which are highly cultivated. The hills on each side are covered with virgin sal forests, which form one of the most valuable reserves of the forest department. Floods in 1906 swept away much of the fruitful land abutting on the river where it passes through the Painon patti, Jhartgaon and Kamalde being the villages that suffered most. Elsewhere in the vicinity the land was overwhelmed with slips of gravel brought down from the overhanging hills by the unusual rains.

MUSAGALI, a halting place and travellers' bungalow, distant 12 miles from Pauri on the road to Almora, situated in patti Bidolsyun on the left bank of the western Nayar. A road also passes by this bungalow for Srinagar via Khirsu. The bungalow is not conveniently located, and the traveller is advised, during the summer months, to march straight to Saknyana from Pauri, 22 miles.

NAGPUR, a pargana of the district comprising seven patwari circles, Malla Kaliphat, Talla Kaliphat, Malla Nagpur, Bichla Nagpur, Talla Nagpur, Khader and Dasjyula. It is bounded on the north by Tibet and pargana Painkhanda, on the south by the Alakuanda, on the east by parganas Painkhanda and Dasoli and on the west by Tehri-Garhwal. Its cultivated area is 34·45 square miles with a *khalsa* revenue demand of Rs. 13,728, *gunth* Rs. 2,953, and *sadabart* Rs. 1,528.

In 1841 the population numbered 18,516; this increased to 30,340 in 1858, 42,300 in 1881 and 56,211 in 1901. The pargana is rich in minerals and possesses some of the most magnificent scenery in the hills. We concur with Mr. Batten when he writes that Nagpur will never be forgotten by those who have pursued the torrents of the Mandagini to their source, who have wandered

through the great forests of the Tungnath range or who have spent the day on the banks of Diuri Tal. All through the upper pattis there are bits of scenery unsurpassed for beauty and grandeur in the hills.

The concourse of pilgrims from May to October enables the landholders to sell their surplus produce. They also breed large numbers of sheep and goats for the Bhotia traders of Mana and Niti. The Nagpuris all dress in woollen clothes, even when their homes are in warm or temperate valleys. As they do not change their clothes with the seasons, are dirty in their habits and allow their houses to be entirely surrounded in the rainy season by jungles of nettles, wild hemp, and similar rank vegetation, they are subject to many illnesses and the *mahamari* or plague occasionally commits some havoc. In regard to temperature the climate of some parts of Nagpur is quite European, and the scenery of the whole tract is highly beautiful, while the vicinity of the eternal snows is characterised by the grandest sublimity. Granite, gneiss and mica slate prevail in the pargana, but clay slate and magnesian limestone are also very plentiful. There are several iron and copper mines in this pargana mentioned in Mr. Beckett's settlement report of 1864. Of these only the iron mines of Hat Jaisal, Bhakunda, Mangu and Tal Warli and the copper mine at Tal Bunga are now worked.

The name Nagpur recalls the mysterious serpent race whose emblem is worshipped at a small shrine near the summit of the Nagnath hill. Nagnath is also the site of a two-roomed wooden inspection hut belonging to the district forest department, and of a middle school. About two miles to the north of Nagnath on the Tungnath road is the village of Pokhri, which contains an upper primary school to which is attached a training class where pupil-teachers are instructed in their duties.

NANDA DEVI, a mountain situated in *patti* Talla Painkhanda, pargana Painkhanda, at 80° east longitude and 30° 20′ north latitude. It is the highest mountain in the British empire, attaining according to the latest calculations an altitude of 25,660 feet. The mountain mass which culminates in Nanda Devi contains also the peaks known as Dunagiri (23,184 feet), Trisul

(23,400 feet) and Nanda Kot (22,530 feet). It is bounded on the east by the Gori river in the Almora district, on the north and west by the Dhauli and Alaknanda rivers and on the south by the Pindar river. The main range of the group forms the watershed between two very important river systems in this portion of the Himalayas, the Alaknanda-Ganges which reaches the plains at Hardwar, and the Sardha, Sarju or Ghagra which debouches at Brahmdeo in the Almora district. Parallel with the main range lies a massive mountain block extending from Dunagiri on the north to Trisul on the south, and enclosed between these stupendous walls of ice lies a rough parallelogram about seven miles long and five wide, the only break in which is the narrow and precipitous cleft through which the Rishiganga has carved its way out. Into and across this basin projects Nanda Devi itself, its north-west arête descending almost to the entrance of the chasm.* The summit itself appears to be a pyramid of grey rock, unclothed with snow owing to the extreme steepness of its sides but far surmounting the icy peaks that surround it. Thus the summit, precipitous in itself and protected by the formidable defence provided by the icy basin in which it lies, is probably inaccessible; but over a mile below it a religious festival is held every twelfth year, though access to the spot is so difficult that it is reached by scarcely fifty of the pilgrims who make the attempt.

The natives regard the summit as the kitchen of the local deity, this belief being due to the smoke-like appearance of the clouds of snow blown off by the wind. The phenomenon is very curious, and when the snow, which streams out in a straight column, catches the rays of the morning sun, the rainbow effect produced is most beautiful.

The first exploration of Nanda Devi was made by Mr. Traill, the first Commissioner. His object was however the discovery of an alternative trade route from Tibet, and his operations were confined to the eastern slopes of the mountain which are situated in the Almora district. The first purely mountaineering expedition was made by Mr. W. W. Graham in 1883. The truth of many of his statements was doubted by some but he always had plenty of adherents in the Alpine Club of which it may be noted he was

* A. L. Mumm. *Five Months in the Himalayas.*

never a member; and his accuracy was completely established by Dr. T. G. Longstaff, who covered some of the same country in 1907. Mr. Graham's party advanced up the Dhauli valley and making their head quarters at Rini at the junction of the Dhauli and Rishiganga set out for Nanda Devi on the 15th of July, following the northern bank of the latter river. There was no road and the way was sufficiently steep. Pouring rain added to the troubles of the explorers. On the evening of the second day they reached a lonely little tableland called Dunassau, after an extremely difficult march over precipices towering sheer 7,000 or 8,000 feet above the torrent. Heavy snow the next day confined the party to their tents, but on the 19th they surmounted the ridge and saw the northern slope of Nanda Devi some 12 miles distant. The final 1,500 or 2,000 feet to the summit are described as looking black and threating, but comparatively easy access appeared to be afforded by a splendid spur running up to an elevation of nearly 25,000 feet. Next morning however it was found that the coolies had deserted, nevertheless the party carrying their own baggage accomplished a short and difficult march to a spot called by Mr. Graham Debitigarh and by Dr. Longstaff Debrugheta situated on the southern spur of the range running south from Dunagiri. The path now lay across sharp rocky ridges running down from the mountains on the north and after another laborious march the party was arrested by heavy rain and a sudden rise in the Rishiganga which now became unfordable. They therefore continued to follow the right bank of the torrent looking for a crossing, until their advance was absolutely barred by a great waterfall flanked by black unscaleable cliffs between which the torrent pent within the narrowest limits raved and roared with a sound of thunder. "We were halted" writes Mr. Graham (in *Good Words* for 1885) "right under the great cliffs of Nanda Devi which rose almost perpendicularly above us and we could see, so near and yet so far, the spur by which we had hoped to climb."

NANDPRAYAG, a small bazar and *chatti* situated at the confluence of the Alaknanda and Nandakini rivers in patti Talli Dasoli, of pargana Dasoli. The present site is ten chains above the old one which was washed away at the time of the Gohna flood in

1894. The bazar contains a post office and the American Mission has a branch here. It is a busy scene both during the pilgrim season and in the cold weather when the Bhotias visit the place, residing in temporary huts round about the bazar. Much of the borax that they bring from Tibet is sent from here to Ramnagar in the Naini Tal district. The road from Nandprayag to Karanprayag crosses the Nandakini by a suspension bridge of 120 feet span, while a good path along that stream takes the traveller by Ghat to Gwaldam.

NARAYANBAGAR, a halting place on the route by Lohba to Nandprayag is situated on the right bank of the Pindar river in latitude 30° 8′ 5″ and longitude 79° 25′. The road from Lohba leaves the Karanprayag route at Gwar and then turns north-east, ascending the watershed between the Pindar and Ramganga rivers by the Inorakhal pass, which has on either side the Kanpur (9,522 feet) and Kandal (8,553 feet) peaks. Thence the road passes by Kimoli and Bunga down the valley of the Kimoligadh to its confluence with the Pindar at Narayanbagar where there is a suspension bridge (180 feet span) and on to Banjbagar. From Karanprayag a road runs up the left bank of the Pindar to Nalgaon, where there is a rope bridge, and then up the right bank eastwards through Narayanbagar to Nandkeshari via Tharali.

NAYAR, one of the rivers of the district, formed by the confluence of its eastern and western branches at Batkholu in patti Manyarsyun east of pargana Barahsyun. The eastern branch rises on the north-western slopes of the Dudatoli range in latitude 30° 7′ 30″ and longitude 79° 10′ at an elevation of between 7,000 and 9,000 feet. It follows a course at first south-westerly, then south, and then west to its confluence with the western Nayar or Chiphalghat river near Batkholu. Thence the united streams under the same name flow north-west and fall into the Alaknanda at Byansghat in latitude 30° 3′ 40″ and longitude 78° 38′ 30″ at an elevation of 1,414 feet above the level of the sea. From their source to their junction both branches have a rapid fall, but below the junction on the united rivers show a succession of deep pools swarming with fish. The total length from its further source is about 50 miles.

The branches and the united stream are crossed in several places by iron suspension bridges—at Banghat (250 feet span) on the Kotdwara-Pauri road, at Chaumasu (180 feet span) on the Chandpur-Ukhlet-Fatehpur road, at Mason (171 feet span) on the Pauri-Almora road, at Paithani (112 feet span), on the Chiphalghat-Chandpurkhal road and at Simkhet (118 feet span) on the Pauri-Almora road. The eastern branch flows through parganas Chandpur, Malla and Talla Salan and Barahsyun and forms the boundary for a short distance between Chaundkot and Malla Salan while from the junction it is the boundary between Ganga Salan and Barahsyun parganas. The streams which unite to form its headwaters near Marwara in patti Choprakot are the Syonsi, Khirganga, Landholi, Dumodhyar and Pathargadh. The principal feeders on the right bank are the Musetigadh and the Machhlad, which drains the eastern pattis of pargana Chaundkot and at its junction forms the boundary between pattis Kolagadh and Gurarsyun. On the left side the eastern Nayar receives first the Khatalgadh which rises near Lakhora in the Almora district and drains patti Khatli, and later the Maidi which drains the entire valley of Kaurya and the upper portions of Sila. There are some large villages close to the banks of the eastern Nayar, among which may be mentioned Marwara, Hansuri in patti Choprakot, Ghorpala in Walla Khatli, Kalwari in Iryakot and Kande, Babina and Toli in Malla Badalpur.

The northern branch of the western Nayar takes its rise near Khand in patti Kandarsyun of pargana Dewalgarh, and flowing in a south-westerly direction unites with the southern branch near Paithani in the same patti. The latter drains the high lands of patti Dhaijyuli and is the more considerable of the two, flowing for about 10 or 12 miles north-west before reaching this junction. The western Nayar is crossed by the Pauri-Almora lower road at Jwalpa by a bridge of 67 feet span and receives numerous feeders draining the slopes on either side of the tract through which it flows, among them being the Pasin, Kota and Ira streams on the right bank and the Pen, Kul and other minor torrents on the left bank. This river at the favourable time of the year for the purpose (usually in August and September) is blocked in many places by weirs, to which are fixed conically shaped baskets arranged to catch

the fish coming down with the flood. The inhabitants along the banks regard fish as one of their staple foods.

NITI, a village in Malla Painkhanda, of pargana Painkhanda, distant 13 miles to the south of the pass of the same name, 45 miles from Joshimath. It lies in latitude 30° 46′ 40″ and longitude 79° 53′ at an elevation of 11,461 feet above the level of the sea, while the height of the pass is 16,628 feet above sea-level. The village is situated on the left bank of the Dhauli river and consists of 52 houses, built of stone and roofed with deodar slats : it contains a population of 267 souls. From November to May the village is deserted, as all the inhabitants, Marchas, move down to the Alaknanda valley, where they have encampments near Chamoli and at other places. There are two routes from Niti into Tibet, one through Hoti and the other through Chorhoti. The village has fallen off in prosperity of late years whereas Malari, Gamsali and Bampa have risen in importance.

PAINKHANDA, the largest of the eleven parganas into which this district is divided. It consists of two patwari circles, Malla and Talla Painkhanda with a total measured area of 5·21 square miles, while the unmeasured area is roughly 1,680 square miles. The revenue demand amounts to Rs. 1,462 *khalsa* and Rs. 1,405 *gunth*. The population at the census of 1901 numbered 6,512. It comprises for the most part the country lying within the Mana and Niti valleys leading from the passes and is unlike any other part of Garhwal. Mr. Pauw in his settlement report says of this pargana : " cultivation is sometimes on level pieces of land along the rivers, sometimes on the hillside and very badly terraced, and sometimes consists of forest clearings which are cultivated two or three years in succession and then abandoned till shrubs have again grown up in five to ten years' time. There being little or no rain to wash down the soil, there is little difference in productiveness between the level and sloping land. Agriculture is carried on at heights varying from about 6,500 feet above sea level at Rini to 11,500 at Niti. In the Mana pass only *chuwa* and *phapar* are grown. In the Niti pass wheat, barley and mustard are also raised, but only in irrigated land."

As might be expected in a tract so sparsely populated, there are extensive forests to be found all over the area, consisting of oak and fir at the lower altitudes while cypress and deodar grow high up in the valleys.

PAINKHANDA, MALLA, one of the pattis into which the above pargana is divided, is bounded on the north by Tibet, on the south by parganas Badhan and Dasoli, on the east by Tibet and the Almora district and on the west by patti Talla Painkhanda. The population numbers 2,968 and the cultivated area measures nearly three square miles. The principal villages are Niti, Malari, Bampa, Joshimath and Dhak · the patwari lives in Dhak. The revenue demand amounts to Rs. 593 *khalsa* and Rs. 269 *gunth*. The Joshimath Niti and Ghat-Tapoban lines of road pass through the circle.

PAINKHANDA, TALLA, is the other patti of the pargana in which patti Urgam which formerly belonged to pargana Nagpur, has been incorporated since the settlement of 1896. It is bounded on the north by Tibet, on the south and east by Malla Painkhanda and on the west by Malla Nagpur and Malla Kaliphat. The cultivated area of this circle is nearly two and a half square miles with a *khalsa* revenue demand of Rs. 869 and Rs. 1,136 *gunth*. The population is 3,546. The chief villages are Langsi where the patwari resides, Mana, Pandukeswar and Bhyundar. The only road passing through it is the main pilgrim route to Badrinath and its continuation from the latter place to the Mana pass.

PANDUKESWAR, a village lying on the route to the Mana pass in latitude 30° 37′ 59″ and longitude 79° 35′ 30″ is nine miles north of Joshimath, being nearly half-way between that place and Badrinath. Here is the temple of Yog-badri, one of the Panch-badri. The name of the village is said to have been given to it on account of the Pandavas who, after making over Hastinapur to Parikshat, retired to this place to worship and do penance. The villagers trade with the Bhotias and also open shops during the pilgrim season, when they do a very good business. There are some famous copper plates preserved here containing inscriptions dating from the days of the Katyuri Rajas.

PATLI DUN is the name given to the grass lands lying on both sides of the Ramganga river, before the river passes through the last range of hills in the district. These grass lands form a valley, 10 to 12 miles long by one to two miles wide. The grass is burnt off in January so as to afford grazing to the numerous cattle employed in taking down produce from the government reserved forests through the middle of which the river flows. There are other Duns or valleys to be found in the hills (notably the Chokham and Kohtri Duns which lie some miles to the west of the Patli Dun and are much smaller in extent), through which small rivers flow, taking their rise in the low Garhwal hills. Each of these Duns is generally traversed by a forest road down which much timber and forest produce pass to the plains and which is also used by the hill villagers for the export of grass and merchandise.

The plains are connected with the Patli Dun by three tracks. The most westerly is the main cart-road, which, entering the district at the foot of the hills at Kalagarh on the west bank of the Ramganga, follows the stream up to Boksar, which is at the mouth of the Dun. The road then crosses the Dun and runs up the Palain river (a confluent of the Ramganga) in a northerly direction as far as Halduparao. Here it bifurcates, one branch running north along the Palain to Dhontial whence it is continued by bridle-paths to Lansdowne and Dogadda, while the other branch runs west to Chokham and Kotdwara. The second track is a footpath with difficulty passable for ponies. It leaves the foot of the hills near the east bank of the Ramganga at Lakarghat, and traversing the hills enters the Patli Dun near Boksar. It is closed to all traffic during the hot weather owing to danger of fire breaking out in the valuable reserved forests, through which it passes, from the carelessness of travellers. The third entrance into the Patli Dun from the south is a path, leaving the foot of the hills near the boundary of the district at Dharon. This is not much used and is also closed during the hot weather. There are two tracks from the Patli Dun to the Mandal valley crossing in a northerly direction the ridge which separates the two valleys. All these roads and tracks are kept up at the expense of the forest department. The Patli Dun is separated from the Kohtri

and Chokham Duns, by some miles of precipitous and broken country. It is separated from the plains on the south by two ridges of low hills. The whole country is one mass of watercourses known locally as *sots* or *raos* which drain the ridges on both sides of the Ramganga valley. The river always contains water sufficient for floating purposes and in the rains is a seething torrent, debouching on the plains at Kalagarh and finally joining the Ganges in the Farrukhabad district. The sal forests of the Garhwal forest division, through which it flows, are situated on slopes, sometimes gentle, sometimes precipitous and steep. These sal forests, which were formerly of great value, were being ruined by reckless felling and annual firing before they came into the hands of the forest department. Under fire protection they are now rapidly recovering, and in the course of another century will yield a wealth of timber such as is at present unknown in the province. The land here and there on both sides of the river in the Patli Dun used to be cultivated, but Sir Henry Ramsay, recognizing that shifting cultivation and unrestricted grazing were destroying what was left of the sal forests and were prejudicial to silviculture, removed the villagers and cultivators, giving them land elsewhere and made over the whole of the Dun to the forest department free of any rights. At Boksar at the mouth of the Dun a water-power mill was erected in 1856, but its success was doubtful and it was finally abandoned, the machinery being sold off. Tigers and other wild animals are fairly numerous along the Ramganga valley and owing to the broken nature of the country and the unlimited water supply the tract forms a natural game preserve. The forest department has inspection bungalows every eight or nine miles down the Ramganga from where it enters the reserved forests to Kalagarh. For the occupation of these a special pass is required.

PAURI, the district head quarters, consists of a bazar and a village and the courts, offices and residences of the officials. It is situated in patti Nadalsyun of pargana Barahsyun, distant 48 miles from Kotdwara town and eight from Srinagar on the main road between these two places. The elevation above the level of the sea is 5,390 feet and it is located on the north slope of the Kandolia hill with an uninterrupted view of a long line of snows. It is

absolutely sheltered from the south by a long ridge (6,000—6,500 feet) which is clothed in parts with oak forests most carefully preserved. Just above Pauri there is an extensive plantation, closed to grazing, where deodars have been planted and a good pine forest is growing up. Beyond it to the west is the Kyunkala peak on which stands a temple of Mahadeo, presided over by a Jogi mahant. Pauri too is the head quarters of the Barahsyun sub-division and a deputy collector is stationed here. Besides the usual offices and court rooms there is a fifth class jail, while the tahsili, the sub-registrar's office, the land record office and the civil dispensary are about half a mile away to the west. The dâk bungalow is the same distance to the east along the Almora road, just above Chopra, where there is a mission (American Methodist Episcopal) and school. The former has been in existence since 1865 and the latter is largely patronised both by Native Christians and Hindus. Three miles from Pauri to the west is the old tea estate of Gadoli, now the property of the mission, which contains a girls' orphanage and boarding school. The buildings are of a substantial kind, comprising a house for the principal and her two assistants, the school and boarding house and a fine chapel. Pauri is well connected with all parts of the district by hill roads and has been the head quarters since 1840.

PINDAR, a river which rises within the Almora district and enters Garhwal at Kanwari where the Bhaiganga joins it on its right bank. The course is thence westerly to the confluence with the Kailganga on the right bank at Dewal in patti Pindarwar. Here the river bends southwards for a short distance before again resuming its western course. At Tharali it receives on the right bank the Goptaragadh and at Paithani the Toligadh stream, whilst on the left bank it receives numerous small torrents all along its course and at Simli the Bhararigadh. It joins the Alaknanda on the left bank at Karanprayag in north latitude 30° 15′ 43″ and east longitude 79° 15′ 29″ at an elevation of about 2,000 feet above the level of the sea. The Pindar is crossed by suspension bridges at Nandkesri, Tharali, Narayanbagar and Karanprayag.

PIPALKOTI, a village and halting place with dharmsalas and grain shops on the route from Hardwar to Badrinath, is situated on the left bank of the Alaknanda river in latitude 30° 25′ 50″ and longitude 79° 28′ 20″ in patti Talli Dasoli of pargana Dasoli. It is distant two miles from Hat and over 11 miles from Hilang, the next stage. The road from Chamoli follows the right bank of the Alaknanda to Hat where it recrosses and continues on the left bank to Pipalkoti. There is a suspension bridge at Hat of 80 feet span. A stream that carries off the surplus waters of the small Diuri lake above Gopeswar is crossed on the right bank.

POKHRA, a fairly large village on the lower Almora-Pauri road. It is situated in patti Talain of the Malla Salan pargana and is the point of convergence of some important roads. Pokhra possesses a pleasant camping ground in a pine forest, and has a middle school to which is attached a training class for pupil-teachers.

PUNAR, a *chatti* and collection of shops and dharmsalas situated on the left bank of the Alaknanda river in patti Dhanpur of pargana Dewalgarh. The bazar is higher above the water's edge than it used to be before the Gohna flood destroyed the old site. A little way below the *chatti* is the confluence of the Alaknanda and Mandagini rivers, forming one of the five sacred *prayags* or junctions and called Rudrprayag (*q. v.*). An inspection house of the public works department occupies a pleasant site lower down the stream, opposite the confluence.

RAMNI, a large village situated in patti Malli Dasoli of pargana Dasoli on the road from Gwaldam to Tapoban. The camping ground is above the village on a barren hillside. On the other side of the ridge in a clearing stands a pleasant forest bungalow about a mile and a half from the village. The American Mission has a branch here. The Gohna lake is about six miles away on a very poor track.

RUDRPRAYAG, one of the five sacred confluences, the others in this district being Vishnuprayag, Karanprayag, Deoprayag and Nandprayag. Just where the Alaknanda and Mandagini meet is

a small bazar with a temple of Rudrnath, an appellation of Siva; and all pilgrims perform ablutions here before proceeding to Kedarnath. The story is that the sage Narada underwent penance at this place in order to obtain a sight of Rudrnath Siva.

SAKNYANA, a small village and travellers' bungalow on the Pauri-Almora road is situated in patti Bali of pargana Chandpur distant 22 miles from Pauri and 10 from Musagali. Kainyur the next stage is 8 miles further on.

SALAN. Three parganas occupying the south of the district bear this name, which is said to denote the tract that bears the sal tree.

(1) GANGA SALAN is so called from its position on the left bank of the Ganges river. It is the most westerly of the Salan parganas and is bounded on the north by the Nayar and the Ganges, on the south by the reserved forests of the Ganges division, on the east by pargana Talla Salan and on the west by the Ganges, and the forests which border it. For administrative purposes it is divided into the following twelve patwari circles: Walla and Palla Ajmir, Walla, Palla and Bichla Dhangu, Dabralsyun, Walla and Palla Langur, Malla, Talla, Walla and Palla Udepur. The current revenue is Rs. 21,641.

In 1841 the population was only 16,538, whereas at the census of 1901 the pargana contained no fewer than 49,105 inhabitants. So within 60 years the population nearly trebled itself. The worst pattis are those named Dhangu, which, as the name in the hill language implies, are rocky and rugged, especially in the neighbourhood of the Ganges which here forces its way through steep precipices; some of the villages are small and poor and a slight reduction of the revenue in 1840 was thought expedient. There are good forests of sal and pine distributed through the pargana, which grows among other crops turmeric, ginger, red pepper and cardamoms. During the cold weather the inhabitants of the Udepur and Ajmir pattis find employment in the forests at the foot of the hills, while in the pilgrim season the residents of the Dhangu pattis obtain work along the route as coolies, jhampanis and shopkeepers. It is worthy of mention that of late the Dhangu

and Udepur people have taken to giving their daughters in marriage to the Bhatya merchants of Bombay who pay handsome prices to the parents or guardians of the girls. About 100 girls in every year find husbands in this way; but marriage is probably a rather euphemistic description of the union.

(2) MALLA SALAN, the second of the Salan parganas, is bounded on the north by parganas Chaundkot and Chandpur, on the south and west by Talla Salan, and on the east by the Almora district. It is divided into eight patwari circles, namely, Bangarsyun, Gujru, Malla Iryakot, Talla Iryakot, Palla Khatli Walla Khatli, Sabli and Talain. The total cultivated area measures 47·35 square miles with a revenue demand of Rs. 19,449 *khalsa* and Rs. 442 *gunth*.

The population has increased enormously since 1841, when it numbered only 16,132; in 1881 it numbered 41,125 and in 1901 no less than 51,591. This pargana, especially Talain and Kolagadh pattis, is noticeable for the cultivation of chillis, which are exported to the markets at the foot of the hills. A large number of the inhabitants go to the hill stations in the season and serve as jhampanis or coolies. Most of the pattis contain forests of pine and mixed species, and from the sylvicultural point of view this pargana is very much better off than its northern neighbour Chaundkot.

3. TALLA SALAN, the third and last of the Salan parganas, is bounded on the north by pargana Chaundkot and Malla Salan, on the south by the reserved forests of the Ganges and Garhwal divisions, on the east by the Almora district and on the west by pargana Ganga Salan. It is divided into eight patwari circles, namely, Malla Badalpur, Talla Badalpur, Bichla Badalpur, Bijlot, Bungi, Kaurya, Painon and Sila, with a total cultivated area of 48·76 square miles. The Bhabar is now separate and for administrative purposes has nothing to do with the pargana. The revenue assessment was in 1896 Rs. 16,832 (*gunth* Rs. 408). The population, which in 1841 numbered 13,343, was 36,574 in 1901. The best forests of sal are under the supervision of the forest department but there are several fair pine and sal forests distributed through the pattis. The inhabitants resort largely in the cold weather to the forests at the foot of the hills, where work is easily

obtainable at a good wage. Lansdowne cantonment has had a good effect on the neighbouring pattis such as Kaurya, Sila and Badalpur Talla and large sums of money find their way into the pockets of the villagers from the sale of milk, ghi and vegetables.

SANEH, a station on the Najibabad-Kotdwara section of the Oudh and Rohilkhand Railway. Its chief exports are timber and other forest produce.

SATOPANT, a lake and glacier situated 18 miles north-west of Badrinath. The word is derived from *satya* good and *path* road. The lake is three-cornered in shape, each of the corners bearing the name of one of the Hindu triad, viz. Brahmghat, Vishnughat and Maheswarghat. Two small streams enter the lake at the two last mentioned corners. The circumference is about three quarters of a mile and snows are visible all round. Pilgrims can visit the lake, the journey taking two days, only between June and September, and as there is no vegetation in that region they have to take firewood and cooked food with them from Badrinath. There is nothing to rest in but caves on the road and at the lake itself. The Marchas of Mana hold this lake in great reverence, and on the death of one of their number the ashes after cremation are thrown into the lake as the soul of the dead person would otherwise not find salvation.

On the road to Satopant is a waterfall called Basudhara, where a number of the pilgrims bathe. No person of illegitimate birth, it is said, is ever besprinkled—a conceit which appears to be based on the fact that the water which falls in an exiguous stream from a great height is often cut off for a minute or two at a time by violent winds.

SRINAGAR, the only town in the district besides Kotdwara, is situated in patti Katulsyun of pargana Dewalgarh, distant eight miles from Pauri at an elevation of 1,706 feet above the sea on the left bank of the Alaknanda and on the main pilgrim route from Hardwar to the temples of Badrinath and Kedarnath. The old town, once the capital of Garhwal and the residence of the rajas, is now no longer in existence; the Gohna flood washed it away in 1894 and

nothing but a few ruins remain to testify to its former site. The land on which it stood is under cultivation and the new town is now located much higher up and about five furlongs to the north-east of the old position. It has been regularly laid out with wide streets, lined with avenues of young trees. The houses are for the most part double-storeyed, built of stone and roofed with slates. The population at the census of 1901 numbered 2,091 consisting of Brahmans, Rajputs, Jains, Agarwal Banias, Sonars, and some Mahommadans. The merchants deal principally with Najibabad, whence they obtain cloth, gur and other articles of merchandise. The finest building in the town is the hospital which has lately been erected out of *sadabart* funds at a cost of Rs. 15,000. There is also a police station, a combined postal and telegraph office and a high school with a boarding house. When the old town was washed away, many of the inhabitants left the district and settled in the neighbouring state of Tehri-Garhwal; consequently the new town may be said to be still in its beginnings; but its position on the pilgrim route is a guarantee of its increasing prosperity. There are two or three temples of importance which escaped the ravages of the flood, but the majority, being situated within the limits of the inhabited site, suffered the same fate as the town itself. Srinagar is a town administered under the provisions of the Bengal Chaukidari Act, 1856, and has a miscellaneous income of Rs. 1,150 per annum. The travellers' bungalow is located above the town and commands an extensive view of it and the river beyond. (For an account of the old town *vide* the Gazetteer of 1886, volume XII, page 691.) Below the town and at a distance of half a mile is the Saivite temple of Kamleshwar. The temple is maintained out of *gunth* revenue. Here women desiring offspring are wont to spend the night of Baikunth Chaturdashi. They stand around the temple with ghi-fed lamps in their hands, and those whose strength is equal to the vigil and whose lamps are still alight at dawn are supposed to have won the favour of the god.

TAPOBAN, also known as Dhaktapoban, a village situated on the left bank of the Dhauli river. It is a halting place on the road to the Niti pass, distant nine miles from Joshimath and

about eight miles from Suraithota, the next stage. Tapoban is also connected with Lohba and Ramni by roads which meet at Ramni. Near the village are some very hot springs and some old temples. About four miles higher up the river is the village of Subain with a temple of Bhaveshya Badri of the Panch-Badri.

TRIJUGI NARAYAN, a village situated in patti Malla Kaliphat of pargana Nagpur, having a shrine visited by the majority of pilgrims on their way to Kedarnath and distant eleven miles from that temple and nearly four from Gaurikund. The path to Trijugi branches off from the main road near the Patigadh rivulet and is three miles in length. There is also a difficult pathway to it from Tehri-Garhwal through the Panwali range. Here, it is supposed, Siva and Parbati, the daughter of King Himachal, were married in the satyuga or age of truth; and ever since then the sacrificial fire has been kept alive during the last three yugas; hence the name Trijugi Narayan or god of three ages. Much virtue lies in the ashes of this fire if smeared across the forehead of the pilgrim. There are also four tanks where ablutions and other ceremonies are generally performed. Poisonless snakes abound in the tanks and their touch is considered auspicious by the bathers.

TRISUL, a mountain in patti Talla Painkhanda, pargana Painkhanda situated in east longitude 79°45′ and north latitude 30° 18′. Trisul is one of the Nanda Devi group of peaks, among which are numbered in addition to the principal mountain (25,660 feet), Dunagiri (23,184 feet), Nanda Kot (22,530 feet), and Changabang the Mount Monal of Mr. Graham (22,516 feet). The topography of the group is described in the article on Nanda Devi. Trisul is the south-western buttress of this group and its slopes run down to the Pindar on the south and to the Alaknanda on the west. Trisul is the trident of Siva. The three peaks, which form the trident, lie almost in a straight line running from north-east to south-west. The highest of all is situated at the north-eastern extremity of the ridge and has an elevation of 23,406 feet. The summit is described as a flat-topped dome of snow forming the apex of a huge triangular snow field set at a steep angle on the north-east face of the mountain. Between this peak

and the middle peak (22,490 feet) lies the Trisuli glacier and beyond the latter again lies the third peak, 22,360 feet.

The only ascent of Trisul was made in 1907 by Dr. T. G. Longstaff who gave an account of his adventures to the Royal Geographical Society in the same year. Previous reconnaissances had established the inaccessibility of the mountain from the south and it was therefore decided to make an attempt from the north following the route up the Rishiganga adopted by Mr. Graham when he made his unsuccessful attempt on Nanda Devi in 1883. Heavy floods due to melted snow had however so swollen the torrent that the path along its precipitous banks, difficult at any time, was now impracticable and Dr. Longstaff's party therefore followed the main Dhauli river up to Suraithota, where they established their base camp. After some delay due to the lateness of the season they crossed the range separating the valleys of the Dhauli and the Rishiganga and dropped down to the valley of the latter river which they crossed at Duti, 10,900 feet above sea-level. A few miles up-stream they turned aside to the south and followed a gorge to which they gave the name of Trisuli nala. The gorge was found to be barred by the Betatoli glacier which heading from a peak 20,842 feet high, 4½ miles north of Trisul, and impinging upon the cliffs that confine the gorge towards the east, presents to the north an almost perpendicular wall of ice several hundred feet high. Dr. Longstaff's party took to the left lateral moraine of the Betatoli glacier, and after following this until the ice became less steep and broken crossed the glacier at right angles and camped in a little hollow on the far side. Next day, keeping up the left bank of the torrent, they reached the snout of the Trisuli glacier, about 14,000 feet above the sea level, and camped at an altitude of 16,500 feet. Next day they reached 20,000 feet and camped, but a violent wind blew all night carrying snow into the tents, and next day when a start should have been made the gale was still raging. Nothing could be done the whole of that day, and on the third day they returned to the lower camp by the Betatoli glacier. On June 11th, 1907, following their old track they camped at an altitude of 17,500 feet, and next day after a long and arduous climb reached the summit at 4 P.M. Dr. Longstaff was accompanied in his remarkable climb by

two Swiss guides named Brocherel and Subadar Karbir Burathok of the 5th Gurkha Rifles.

UKHIMATH, a village with a temple situated in patti Malla Kaliphat of pargana Nagpur. Here resides the Rawal of Kedarnath with a staff of subordinates. Pilgrims visit it on their return from Kedarnath before proceeding to Badrinath. It is on the left bank of the Mandagini nearly opposite to Guptkashi (*q. v.*). The linga is the chief object of adoration, placed in the centre of an inner apartment of the temple; but there are besides some metal images of Siva, Parbati, Mandhata, Aniruddha and Ukha, Aniruddha's spouse, who is supposed to have done penance here. She has given the name to the place. There are also images of the nine Durgas. There is a *sadabart* dispensary and a police outpost during the pilgrim season.

VISHNUPRAYAG or BISHANPRAYAG, a halting place on the road from Hardwar to Badrinath, is situated on the bank of the Alaknanda in pargana Painkhanda. The name Vishnuganga is also given to the river for some distance of its course above this *chatti*, owing probably to the existence of the Vishnukund in its waters just below the temple, which is built on a tongue of rock between the Dhauli and Alaknanda rivers, one and a half miles from Joshimath. Vishnuprayag is one of the five sacred junctions and forms a station on the pilgrim route. The scenery around is wild and rugged in the extreme, while the mountains are bare and rocky, and at the junction the Dhauli from its superior volume carries its stream unmixed for a considerable distance. There is a flight of steps cut in the rock to enable pilgrims to bathe in the Vishnukund, as the river is very deep and swift; bathers are obliged to hold on to iron chains and rings to prevent themselves from being washed away; but even with this precaution some lives are lost yearly. The road from Joshimath is connected with the *chatti* and the road on to Badrinath by an iron suspension bridge across the Dhauli of 144 feet span.

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TEHRI STATE.

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TEHRI STATE (or *Tehri-Garhwal*).—A native state under the political superintendence of the Government of the United Provinces, lying between 30° 3′ and 31° 18′ N. and between 77° 49′ and 79° 24′ E., with an area of 4,200 square miles. It is bounded on the north by the Punjab states of Rawain and Bashahr and by Tibet; on the east and south by British Garhwal and on the west by Dehra Dun. The state lies entirely in the Himalayas, and contains a tangled series of ridges with innumerable spurs separated by narrow valleys. The general direction of the main ridges is from north-east to south-west, radiating from a lofty series of peaks on the border of Tibet, which vary in height from 20,000 to 23,000 feet above sea level. Tehri state contains the sources of both the Ganges and Jumna, and these two rivers receive the whole drainage. The Ganges rises in a glacier called Gaumukh, at a height of 13,570 feet, and at first bears the name of Bhagirathi. A large affluent called the Jadhganga or Jahnavi rises in Tibet and joins the Bhagirathi at Bhaironghati. The Bhagirathi flows south-west and then south-east, and joins the Alaknanda at Deoprayag, after which the combined stream is called the Ganges. The Alaknanda and Ganges form part of the boundary between Garhwal district and Tehri state. West of the lofty peak of Bandarpunch rises the Jumna, which flows south-west, and then forms the western boundary of the state. The Supin rises north of the same peak, and after receiving the Rupin assumes the name of Tons, which ultimately joins the Jumna. Jumnotri and Gangotri, near the sources of the large rivers, are important places of pilgrimage. **Boundaries, configuration and hill and river systems.**

The flora of the state includes the vast range found in the Himalayas, varying from the sub-tropical species which grow in the outer ranges of low hills to the rich Alpine flowers in the north. **Botany.**

Nothing is known of the detailed geological formation of the state, except as the result of single traverses across it which show it to be of the same general structure and composition as the neighbouring parts of Dehra Dun and Garhwal districts. **Geology.**

Tigers are found in small numbers in the north of the state and leopards are common in the west. Black bears and wild dogs are found in some localities. Antelope, *jarao* (*Rusa* **Fauna.**

aristotelis), spotted deer, barking deer and musk deer are also found, besides *gural*, *sarao*, the *barhal* or wild sheep and the *thar*, a wild goat.

Climate, temperature and rainfall.

Meteorological observations have only been recorded in recent years; but the climate resembles that of Garhwal district. The valleys and lower hills are subject to a very great range of temperature. Snow falls as low as 4,000 feet in the winter.

History and archaeology.

The early history of the state is that of the Garhwal district, the two tracts being formerly ruled by the same dynasty. Pradhaman Sah, the last raja who ruled the whole territory, was killed in battle, fighting against the Gurkhas; but at the close of the Nepalese war in 1815 his son, Sudarshan Sah, received from the British the present Tehri state. During the Mutiny Sudarshan Sah rendered valuable assistance to Government. He died in 1859 without direct male issue, and the state lapsed to the Government; but in consideration of the services of Sudarshan Sah, a near male relative, Bhawani Sah, was allowed to succeed, and he subsequently received a *sanad* giving him the right of adoption. Bhawani Sah died in 1872, and his son and successor, Pratap Sah, in 1887. The present Raja, Sir Kirti Sah, K.C.S.I., was installed in 1892. He married a granddaughter of Maharaja Jang Bahadur of Nepal, and his son is Tika Narendra Sah.

An ancient trident bearing an inscription stands near the village of Barahat.* Great antiquity is ascribed to the monument, which is locally assigned to some Tibetan raja.

The people.

The state contains 2,456 villages, but only one town, Tehri. Population is increasing rapidly: 1881, 199,836: 1891, 241,242; 1901, 268,885. The whole state forms a single *tahsil*. Tehri the capital is the chief place of importance. More than 99 per cent. of the total population are Hindus. The density of population, 64 to the square mile, is very low, but the increase in population between 1891 and 1901 was 11·5 per cent. In 1901 there were 6,020 persons recorded as able to read and write. The language usually spoken is central pahari.

Castes and occupations.

Almost the entire population is composed of Rajputs 161,000, Brahmans 55,000, and Doms 48,000. The two first are divided into Khas Rajputs and Khas Brahmans, who are regarded as

* J. A. S. B., V. page 347.

autochthonous, and Rajputs and Brahmans descended from immigrants from the plains. There are a few Bhotias in the north of the state. Agriculture supports 88 per cent. of the total population.

Agriculture. Cultivation resembles that in the British districts of Garhwal and Almora. It is practically confined to terraces on hillsides and to small alluvial areas in river beds. Detailed statistics are not maintained, but the area cultivated is about 250 square miles. Rice, small millets, such as *jhangora* and *mandua* and wheat are the staple food crops; potatoes are also largely grown. No tea is now produced. Irrigation is provided by small channels drawn from streams and about 20 square miles are supplied in this way. The cattle of the state are small and hardy.

Forests. The Tehri forests form a very valuable property. From 1865 to 1885 they were leased to the British Government, but in 1885 this lease was renewed only with regard to an area of 64·5 square miles of *deodar* forest in the Tons and Pabar valleys and the Sheopuri forest of *sal* and other species in the south of the state. The lease was for Rs. 12,000 annually, but after two years Sheopuri was resigned; the present lease, executed in 1904, makes over the management of the *deodar* forests to the forest department, which pays to the state 80 per cent. of the net profit. In the meantime efforts had been made by the forest officers to recover the lease of the *chir* forests in the Tons valleys with the object of preventing denudation of the hillsides, and in 1896 a further area of 72·1 square miles was leased to the British Government in return for 80 per cent. of the profits. The remainder of the forests are under state management, their conservancy being entrusted to an officer lent for the purpose by the British Government, a system which was introduced in 1896. These forests occupy an area of about 1,100 square miles and are divided into four ranges. The Rawain range in the Jumna and Tons valleys is mainly of *chir* (*pinus longifolia*); the Taknor range in the Bhagirathi valley consists of *deodar* in the north and of *chir*, oak, spruce and silver fir in the rest; the Bhilangana range between the Bhagirathi and the Alaknanda is principally pine, fir and oak; and the Sheopuri range consists of *sal*, *chir* and mixed forests. Altogether pines and firs constitute more than three-fourths of the total area, and the rest is

chiefly *deodar* and *sal* forest, though in the north there is a large amount of boxwood, which as yet has been little exploited. The average income from the state forests for the six years ending with 1907-8 was Rs. 83,000 and the expenditure about Rs. 47,000 annually. The results of conservancy have been most satisfactory, for prior to 1896 there was no proper control, no fire protection and no attempt at reproduction, while heavy fellings were conducted by contractors without supervision.

Trade. Tehri exports timber, forest produce, ghi, rice and potatoes, while it imports piece-goods, sugar, salt, iron, brass vessels, pulses, spices and oil. A little borax passes through the state from Tibet, and salt is imported from the same country. There are no manufactures, except small industries in blanket-weaving and tanning. Mussooree is the chief mart supplying the state. Timber is rafted down the rivers; but other merchandise is carried entirely on pack animals or by coolies.

Roads. There are about 263 miles of road, but these are not practicable for wheeled traffic. The chief lines are from Tehri to Mussooree, to Hardwar, to Deoprayag and to Gangotri.

Administration and justice. The raja has full powers within the state, and the Commissioner of Kumaun is the Political Agent to the Government of the United Provinces for Tehri. Executive authority is vested in an officer called the Wazir. Revenue cases are disposed of by a *tahsildar* and four deputy collectors, one of the latter being stationed at Rawain. There are two magistrates of the third class sitting at Deoprayag and Kirtinagar. The deputy collectors have ordinarily powers of the second class, and the Wazir and one magistrate exercise first class powers. Sentences of death are only passed by the raja. Crime is very light. Civil suits are also heard by the deputy collectors: but there are two civil courts in addition. Appeals lie in all cases to the raja, who frequently transfers them to the Wazir or the first class magistrate. A limited jurisdiction is exercised by the *muafidars* of Saklana.

Finance. The income of the state for a series of years is shown below in thousands of rupees:—

	1880-1.	1890-1	1900-1.	1908-9.
Land revenue ...	85,	78,	83,	1,14,
Total " ...	1,18,	1,58,	2,80,	6,14,

The chief items in 1908-9 were forests 2·97 lakhs, land revenue and cesses Rs. 1,13,900, stamps, excise and presents Rs. 66,000, fines Rs. 59,000 and interest on promissory notes and loans Rs. 54,000. The expenditure of 5·97 lakhs included privy purse 2·8 lakhs, administration Rs. 2,32,000 and forests Rs. 58,000.

Land revenue. No proprietary rights are recognized in land except in the case of the Saklana fief. Land is divided into irrigated and unirrigated, the latter being further divided into four classes according to quality. Separate rates are assessed on each class; the rates have not been revised for many years.

Miscellaneous revenue. The chief items of miscellaneous revenue are tolls on pilgrims carrying water from Gangotri and excise. The latter consists of licence fees for the sale of country liquor, opium and hemp drugs: the total income in 1908 being Rs. 12,500.

Public works. The principal public buildings are the raja's palace, the courts and offices, and the jail. The expenditure on roads and buildings amounted to Rs. 63,500 in 1908.

Army. The state maintains a company of imperial service sappers, organized in 1907 and consisting of 175 men of all ranks. They are stationed at Tehri, and during the cold weather the men are sent for training and instruction to Roorkee, Meerut and Ferozepur. There is also a small body of armed police for guard and other duties, and a few artillerymen for the service of two small cannon used on ceremonial occasions only.

Police and jails. A small force of police is maintained at Tehri, Kirtinagar and Deoprayag. Outside these places police duties are performed by village headmen, who report to the *patwaris* as in the British districts of the Kumaun division. A new jail has recently been constructed capable of holding 250 prisoners; but the number of inmates at one time is only about 20.

Education. The population of the state is not remarkable for its literacy. In 1901 only 2·2 per cent. (4·4 males and ·1 females) were able to read and write. The number of schools rose from three in 1880-1 with 203 pupils to five with 303 pupils in 1900-1. In 1908 there were 18 schools containing 900 pupils, including the Pratap High School at Tehri. The expenditure in the same year was Rs. 14,000.

Hospitals and dispensaries. Five hospitals are maintained, at which 26,000 patients were treated in 1908, including 137 in-patients. In addition to the

dispensaries at Tehri, Deoprayag, Rajgarhi and Uttar Kashi, there is a female hospital at Tehri. The total expenditure in that year was Rs. 10,300.

Vaccination. Although vaccination is not compulsory, its benefits are thoroughly appreciated, and 14,000 persons were vaccinated in 1908-9 representing 52 per 1,000 of population.

SAKLANA ESTATE.—A feudatory estate situated in the west of the Tehri state, with an area of 70 square miles. The owners or *muafidars* pay an annual quit rent of Rs. 200 to the Raja of Tehri and derive an income of about Rs. 2,500 from the estate. During the Gurkha war their ancestors rendered important services to the British Government. The *muafidars* have power to try all civil, rent and revenue suits arising in their own villages, and exercise powers as second class magistrates. Cases in which the *muafidars* are personally interested are transferred by the Commissioner of Kumaun, as Agent for the Tehri state, to competent courts in a British district.

BHAIRONGHATI.—Temple and pass in the Tehri state, situated in 31° 2′ N. and 78° 53′ E., at the confluence of the Bhagirathi with the Jadhganga or Jahnavi. Both rivers flow in deep gorges confined by perpendicular walls of granite, and the scenery is wild in the extreme. One traveller has described the rocks as resembling the massive towers, spires and buttresses of some Gothic cathedral reft asunder by an earthquake. A light iron wire suspension bridge, 250 feet long, crosses the Jahnavi at a height of 350 feet above the surface of the torrent. The place is considered sacred to Bhairon (Siva) and is visited by many pilgrims.

DEOPRAYAG.—A village in Tehri state, situated in 30° 10′ N. and 78° 37′ E., at the confluence of the Alaknanda and Bhagirathi rivers, the combined stream being then called the Ganges; elevation 1,550 feet. The point of junction forms one of the five sacred confluences in the hills, and is annually visited by many devout pilgrims. The village stands 100 feet above the water's edge on the scarped side of a mountain, which rises behind it to a height of 800 feet. The great temple of Raghunath, built of massive uncemented stones, stands upon a terrace in the upper part of the town, and consists of an irregular

pyramid, capped by a white cupola with a golden ball and spire. The Brahmans compute its age at 10,000 years. Religious ablutions take place at two basins excavated in the rock at the point of junction of the holy streams—one on the Alaknanda known as Vasishtkund and another on the Bhagirathi called the Brahmakund. An earthquake in 1803 shattered the temple and other buildings; but the damage was subsequently repaired through the munificence of Daulat Rao Sindhia. The place contains a primary school, the head quarters of a magistrate and about 20 shops.

GANGOTRI—A mountain temple in Tehri state, situated in 31° N. and 78° 57′ E. It stands at an elevation of 10,319 feet above the sea on the right bank of the Bhagirathi, the chief feeder of the Ganges, 8 miles from its source in the Gaumukh glacier. The temple is a square building, about 20 feet high, containing small statues of Ganga, Bhagirathi and other mythological personages connected with the spot. It was erected by Amar Singh Thapa, the chief of the Gurkha commanders in Garhwal, early in the 19th century. During the summer large numbers of pilgrims visit this place, and several *dharmsalas* have been built for their accommodation. Flasks filled at Gangotri with the sacred water are sealed up by the officiating Brahmans and conveyed to the plains as valuable treasures. In the winter the temple is closed and the priests migrate to Mukhba, a village 10 miles away.

JUMNOTRI—A temple in Tehri state, situated in 31° 1′ N. and 78° 28′E. It stands on the western flank of the great peak of Bandarpunch (20,731), at an elevation of about 10,800 feet above the sea and 4 miles below the glacier from which the Jumna issues. The temple is a small wooden structure and contains an image of the goddess Jumna. Close by are situated a number of hot springs, from which water issues at a temperature of 194·7° F. Many pilgrims visit this sacred place every summer.

TEHRI TOWN—Capital of the Tehri state situated at the junction of the Bhagirathi and Bhilang rivers in 30° 23′ N. and 78° 32′ E. Population 3,387 (1901). Tehri stands at an elevation of 1,750 feet above the sea, and in the summer great heat is experienced. The raja then resides at Pratapnagar, which stands on a ridge 8,000 feet above the sea, at a distance

of about nine miles. Tehri was a small village when in 1815 Raja Sudarshan Sah took up his residence there; but it has since increased in size and occupies the tongue of land between the two rivers three-quarters of a mile in length and half a mile in breadth. The bazar lies in an old river bed, which divides the town into two portions. All the courts, the dispensary, the post-office and the school stand on a ridge to the south, while the members of the ruling family live on a ridge to the north. On a still higher ridge stands the raja's palace, which commands the whole town. There are several temples and *dharmsalas* for the accommodation of pilgrims. Tehri is the chief commercial centre in the state, and there is a busy market, at which the products of the plains and imported goods are sold. The high school contains 250 pupils. The town is administered as a municipality, and the annual income amounts to about Rs. 4,000 raised chiefly from octroi.

GAZETTEER

OF

GARHWAL.

APPENDIX.

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TABLE I.—*Population by tahsils*, 1901.

Tahsil.	Total.			Hindus.			Musalmans.			Others.		
	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.
1	2	3	4	5	6	7	8	9	10	11	12	13
Pauri (the only tahsil)...	429,900	211,588	218,312	424,648	207,633	217,015	4,411	3,493	918	841	462	379

TABLE II.—*Population by thanas (i.e. patwaris' circles), 1901.*

	Name of thana.	Total population.			Hindus.			Musalmans.			Others.		
		Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.
1	Manyarsyun West	4,214	2,063	2,151	4,214	2,063	2,151	...	...	...	...	...	...
2	Manyarsyun East ...	3,533	1,749	1,784	3,510	1,736	1,774	8	8	...	15	5	10
3	Aswalsyun ...	6,845	3,143	3,702	6,828	3,138	3,690	14	4	10	3	1	2
4	Kapholsyun ...	7,160	3,393	3,767	7,124	3,374	3,750	...	...	...	36	19	17
5	Patwalsyun Gagwarsyun.	6,027	2,843	3,184	6,009	2,834	3,175	18	9	9	...	...	...
6	Banelsyun Tarsyun	3,492	1,676	1,816	3,491	1,675	1,816	1	1	...	...	...	...
7	Kandwalsyun ...	4,345	2,006	2,338	4,335	2,001	2,334	10	6	4	...	...	...
8	Sitonsyun ...	5,123	2,406	2,717	5,123	2,406	2,717	...	...	...	...	...	...
9	Bangarsyun ...	2,463	1,162	1,301	2,463	1,162	1,301	...	...	...	...	...	...
10	Rawatsyun ...	1,527	733	794	1,527	733	794	...	...	...	...	...	...
11	Idwalsyun ...	4,634	2,171	2,463	4,623	2,165	2,458	...	...	...	11	6	5
12	Nadalsyun ...	3,375	1,621	1,754	3,340	1,606	1,734	5	1	4	30	14	16
13	Paidulsyun ...	4,877	2,273	2,604	4,837	2,252	2,585	1	...	1	39	21	18
14	Pauri ...	549	365	184	292	242	50	72	42	30	185	81	104
15	Dhaundyalsyun ...	2,735	1,296	1,439	2,735	1,296	1,439	...	...	...	...	...	...
16	Meldhar Bangarsyun	3,520	1,744	1,776	3,520	1,744	1,776	...	...	...	...	...	...
17	Sabli East ...	4,379	2,084	2,295	4,342	2,067	2,275	...	...	...	37	17	20
18	Sabli West ...	3,863	1,877	1,986	3,856	1,875	1,981	...	...	...	7	2	5
19	Khatli West ...	3,874	1,849	2,025	3,874	1,849	2,025	...	...	...	...	...	...
20	Saindhar ...	1,984	952	1,032	1,984	952	1,032	...	...	...	...	...	...
21	Khatli East ...	3,560	1,703	1,857	3,560	1,703	1,857	...	...	...	...	...	...
22	Kolagadh ...	2,106	1,009	1,097	2,105	1,008	1,097	1	1	...	...	...	...
23	Talain	5,651	2,676	2,975	5,647	2,672	2,975	4	4	...	...	...	...
24	Khatli Walla ...	4,427	2,131	2,296	4,426	2,131	2,295	...	...	...	1	...	1

25	Pingalapakha Kimgadigadh.	5,852	2,763	3,089	5,849	2,760	3,089	3	3	...	...	...	...
26	Gurarsyun ...	4,578	2,112	2,466	4,575	2,109	2,466	3	3	...	...	...	...
27	Mawalsyun ...	5,624	2,599	3,025	5,618	2,596	3,022	...	...	...	6	3	3
28	Ringwarsyun ...	1,895	879	1,016	1,895	879	1,016	...	...	...	...	...	...
29	Jaintolsyun ...	4.733	2,212	2,521	4,732	2,211	2,521	1	1	...	...	...	...
30	Mandarsyun Dakhini	4,439	2,050	2,389	4,438	2,094	2,389	1	1	...	...	...	...
31	Iriakot Malla ...	4,987	2,356	2,631	4,987	2,356	2,631	...	...	...	...	...	...
32	Iriakot Talla ...	4 694	2,193	2,501	4,694	2,193	2,501	...	...	...	...	...	...
33	Bijlot	3,722	1,747	1,975	3,722	1,747	1,976	...	...	...	...	...	...
34	Gujru	5 811	2,709	3,102	5 811	2,709	3,102	...	...	...	...	...	...
35	Bungi	4,268	1,990	2,278	4,265	1,989	2,276	3	1	2	...	...	...
36	Painon... ...	4,727	2,222	2,505	4,707	2,207	2,500	14	12	2	6	3	3
37	Badalpur Bichla ...	4,617	2,169	2,448	4,615	2,167	2,448	2	2	...	...	...	...
38	Ditto Malla ...	5,137	2,437	2,700	5,133	2,433	2,700	4	4	...	...	...	...
39	Ditto Talla ...	4,917	2,371	2,546	4,917	2,371	2,546	...	...	...	...	...	...
40	Sila	4,706	2,366	4,340	4 470	2,239	2,231	236	127	109	...	...	...
41	Kauria... ...	4 526	2,175	2,351	4,524	2,173	2,351	2	2	...	...	...	...
42	Khader ...	4,984	2,392	2,592	4,984	2,392	2,592	...	...	...	...	...	...
43	Nagpur Bichla ...	4,858	2,391	2,467	4,838	2 381	2 457	20	10	10	...	...	...
44	Dasjyuli Malla ...	3,415	1,663	1,752	3,415	1,663	1,752	...	...	...	...	...	...
45	Ditto Talla ...	4,411	2,163	2,248	4,411	2,163	2,248	...	...	...	...	...	...
46	Nagpur Talla north	4,268	2,089	2,179	4,268	2,089	2,179	...	...	...	...	...	...
47	Ditto south	3.217	1.594	1,623	3,217	1,594	1,623	...	...	...	...	...	...
48	Dhanpur ...	3,049	1.518	1,531	3,001	1,490	1,511	48	28	20	...	...	...
49	Bachhansyun ...	4,474	2,178	2.296	4,474	2,178	2,296	...	...	...	...	...	...
50	Chalansyun Malla	2,567	1,247	1,320	2,567	1,247	1,320	...	...	...	...	...	...
51	Ditto Talla ...	2,708	1,283	1.425	2,708	1,283	1,425	...	...	...	...	...	...
52	Kathulsyun ...	4.548	2,103	2,445	4.548	2.103	2.445	...	...	...	...	...	...
53	Bidolsyun ...	4,088	1,999	2,089	4.032	1,908	2,064	2	1	1	54	30	24
54	Ghurdorsyon ...	3.189	1,504	1,685	3.181	1,501	1,680	1	1	..	7	2	7
55	Bali	4 550	2,201	2.349	4,515	2,180	2.335	3	3	...	32	18	14
56	Kandarsyun ...	4,740	2,234	2,506	4,739	2.233	2,506	1	1	...	...	...	...
57	Dhaijyuli ...	4,184	2,006	2,178	4,184	2,006	2,178	...	...	...	...	...	...
58	Ranigadh ...	5,190	2,542	2,648	5,187	2 540	2,647	3	2	1	...	...	...
59	Srinagar town ...	2,091	1,102	989	1,928	1,013	915	111	63	48	52	26	26
60	Lohba	5.703	2,720	2,983	5,612	2,672	2,940	69	35	34	22	13	9

Table II.—*Population by thanas (i.e. patwaris' circles), 1901—(continued).*

	Name of thana.	Total population.			Hindus.			Musalmans.			Others.		
		Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.
61	Khansar ...	4,162	2,039	2,123	4,151	2,035	2,116	11	4	7	...	..	...
62	Karakot ...	3,632	1,806	1,826	3,628	1,803	1,825	4	3	1	...	...	...
63	Chandpur Talla ...	4,450	2,128	2,322	4,311	2,044	2,267	139	84	55	...	...	...
64	Kapiri ...	3,098	1,522	1,576	3,098	1,522	1,576	...	...	...	..	...	...
65	Chandpur Malla ...	5,820	2,777	3,043	5,777	2,757	3,020	28	13	15	15	7	8
66	Ditto Bichla	2,886	1,397	1,489	2,870	1,394	1,476	16	3	13	...	...	...
67	Chauthan ...	4,549	2,216	2,333	4,538	2,210	2,328	...	...	...	11	6	5
68	Choprakot ...	4,237	2,071	2,166	4,211	2,057	2,154	15	8	7	11	6	5
69	Pindarpar—Walla Badhan	5,536	2,591	2,945	5,519	2 585	2,934	17	6	11	...	...	..
70	Ditto Palla Badhan.	4,028	2,003	2,025	3,946	1,958	1,988	78	42	36	4	3	1
71	Sirgur ...	2,710	1,304	1,406	2,710	1,304	1,406	...	...	...	...	...	...
72	Dasoli Malli ...	3,553	1,706	1,847	3,528	1,693	1,835	13	7	6	12	6	6
73	Nandak ...	4,680	2,323	2,357	4,678	2,321	2,357	2	2	...	...	...	...
74	Dasoli Talli Band ...	10,902	5,203	5,699	10 868	5,188	5,680	24	10	14	10	5	5
75	Pindarpar ...	10,562	5,221	5,341	10,537	5,205	5,332	25	16	9	...	...	...
76	Langur Walla ..	3,583	1,751	1,832	3,571	1,746	1,825	12	5	7	...	...	...
77	Langur Palla ..	6,384	3,044	3,340	6,304	2,998	3,306	79	45	34	1	1	...
78	Dabralsyun ..	5,405	2,570	2,835	5,399	2,567	2,832	1	1	...	5	2	3
79	Dhangu Malla ...	3.776	1,795	1,981	3.772	1,791	1,981	4	4	...	...	..	...
80	Ditto Bichla ...	3,019	1,459	1,560	3,019	1,459	1,560	...	...	...	...	...	...
81	Ditto Talla ...	1,980	976	1,004	1,980	976	1,004	...	...	...	...	. .	...
82	Udepur Malla ...	4,028	1,969	2,059	4,028	1,969	2,059	...	...	..	...	...	...
83	Ajmer Walla ..	4,677	2,298	2,379	4,504	2,206	2,298	154	83	71	19	9	10
84	Ajmere Palla ...	3,228	1,546	1,682	3,228	1,546	1.682	...	...	...	...	...	...
85	Udepur Walla ...	5,481	2,523	2 958	5,464	2,514	2,950	8	6	2	9	3	6
86	Udepur Palla ...	3,888	1,867	2,021	3,888	1,867	2.021	...	...	...	...	...	...
87	Ditto Talla ..	3,748	1,885	1,863	3,746	1,884	1,862	2	1	1	...	...	...

88	Kotdwara town ...	1,029	770	259	898	661	237	112	94	18	19	15	4
89	Kotdwara government estate.	6,024	3,526	2,498	5,581	3 185	2,396	426	333	93	17	8	9
90	Lansdowne purely military area.	3,943	3,264	679	3,778	3,133	645	141	111	30	24	20	4
91	Lansdowne nonmilitary area.	931	748	183	632	523	109	236	187	49	63	38	25
92	Ganges forest division.	3,717	3,108	609	2,449	1,884	565	1,255	1,212	43	13	12	1
93	Garhwal forest division.	2,371	2,307	64	1,690	1,626	64	631	631	...	50	50	...
94	Kaliphat Talla ...	11,841	5,754	6,087	11,645	5,654	5,991	196	100	96	...	...	...
95	Ditto Malla Maikhanda.	6,234	3,144	3,120	6,234	3,114	3,120	...	...	..	...	...	...
96	Bamsu Parkandi ...	4,149	1,901	2,248	4,149	1,901	2,248	...	...	...	...	...	...
97	Nagpur Malla ...	8,824	4,250	4,574	8,824	4,250	4,574	...	...	...	...	...	...
98	Painkhanda Talla .	3,583	1,745	1,838	3,583	1,745	1,838	...	...	...	...	...	...
99	Ditto Malla ...	2,959	1,448	1,511	2,959	1,448	1,511	...	...	...	...	...	...
100	Officers' Camps ...	164	159	5	117	117	...	35	35	...	12	7	5
101	Kotdwara railway station and railway dépôt.	399	299	100	310	225	85	86	71	15	3	3	...
	Total ...	429,900	211,588	218,312	424,648	207,633	217,015	4,411	3,493	918	841	462	379

TABLE III.—*Vital statistics.*

Year.	Births.				Deaths.			
	Total.	Males.	Females.	Rate Per 1,000. *	Total.	Males.	Females.	Rate per 1,000 *
1	2	3	4	5	6	7	8	9
1891 ...	11,666	5,838	5,828	28·61	10,713	5,549	5,164	26·27
1892 ...	12,755	6,565	6,190	31 28	18,489	9,230	9,259	45·34
1893 ...	12,497	6,356	6,141	30·64	10,500	5,302	5,198	25·75
1894 ...	15,889	8,020	7,869	38·96	12,514	6,473	6,041	30·68
1895 ...	13,900	7,014	6,886	34·08	13,377	6,889	6,488	32·80
1896 ...	13,230	6,687	6,543	32·44	14,976	7,647	7,329	36·72
1897 ...	14,831	7,514	7,317	36·37	9,652	4,842	4,810	23·67
1898 ...	17,005	8,644	8,361	41·70	10,144	5,218	4,926	24·87
1899 ...	17,621	8,828	8,793	43 21	11,511	5,936	5,575	28·22
1900 ...	16,300	8,175	8,125	39.97	9,302	4,737	4,565	22 81
1901 ...	18,203	9,188	9,015	42·34	9,676	4,918	4,758	22·51
1902 ...	19,259	9,724	9,535	44 80	11,396	5,697	5,699	26 51
1903 ...	16,154	8,229	7,925	37·57	16,500	7,864	8,636	38·38
1904 ...	18,878	9,563	9,315	43·91	11,872	6,089	5,783	27·61
1905 ...	20,367	10,209	10,158	47·38	14,085	7,104	6,981	32·76
1906 ...	20,966	10,740	10,226	48·77	14,922	7,287	7,635	34·07
1907 ...	19,336	9,862	9,474	44·98	12,349	6,276	6,073	28 72
1908 ...	18,525	9,258	9,267	43·09	17,0[illegible]3	8,833	8,700	39·62
1909 ...	17,214	8,731	8,483	40 04	13,016	6,626	6,390	30·28
1910 ...								
1911 ...								
1912 ...								
1913 ...								
1914 ...								

* The rates from 1891 to 1900 are calculated from the returns of the 1891 census.

TABLE IV.—*Deaths according to cause.*

Year.	Total deaths from					
	All causes.	Plague.	Cholera.	Small-pox.	Fever.	Bowel com-plaints.
1	2	3	4	5	6	7
1891	10,713	...	66	13	6,977	3,232
1892	18,489	...	5,943	3	8,969	3,108
1893	10,500	...	1,525	13	5,447	3,099
1894	12,514	...	10	124	7,691	4,119
1895	13,377	...	...	13	8,845	3,970
1896	14,976	...	1,031	11	9,687	3,632
1897	9,652	...	...	10	6,822	2,410
1898	10,144	...	47	...	6,821	2,824
1899	11,511	...	659	...	6,630	3,587
1900	9,302	...	107	...	5,503	3,132
1901	9,676	...	129	4	6,012	3,034
1902	11,396	25	806	...	6,294	3,494
1903	16,500	...	4,017	6	7,264	4,309
1904	11,872	61	188	21	7,194	3,458
1905	14,085	18	..	16	8,184	4,897
1906	14,922	57	3,429	4	6,648	3,941
1907	12,349	9	2	2	7,382	4,064
1908	17,033	...	2,924	9	9,625	3,601
1909	13,016	...	1,736	1	7,259	2,969
1910						
1911						
1912						
1913						
1914						

TABLE VII.—*Criminal justice.*

Year.	Offences against public tranquillity.	Offences affecting life.	Grievous hurt.	Rape.	Cattle theft.	Criminal force and assault.	Theft.	Robbery and dakaiti.	Receiving stolen property.	Criminal trespass.	Bad livelihood.	Keeping the peace.	Cases under Opium Act.	Cases under Excise Act.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1897 .	...	1		...	2	18	25	2	4	19	1	9	..	...
1898 ...	13	8	2	...	6	23	19	...	1	12	1	25	1	5
1899 ...	...	3	...	...	2	12	20	2	3	11	...	20	...	5
1900 ...	14	4	1	...	8	17	23	5	11	6	1	10	...	2
1901 ...	23	4	2	1	1	19	11	3	5	4	...	3	...	6
1902 ...	31	4	5	...	...	21	48	3	3	14	...	14	1	18
1903 ...	36	1	...		...	21	22	22	2	2	...	52	...	6
1904 ...	36	3		2	...	16	14	1	3	8	...	9	...	4
1905 ...	51	5	...	...	...	6	15	1	5	17	...	26	...	9
1906 ...	29	10	...	...	...	17	28	13	6	7	...	41	2	3
1907 ...	41	1	...	...	...	8	22	1	4	22	...	15	...	7
1908 ...	19	2	...	...	...	7	18	1	12	29	...	31	...	2
1909 ...	16	...	...	...	...	13	22	...	2	76	...	5	1	2
1910 ...														
1911 ...														
1912 ...														
1913 ...														
1914 ...														

Columns 2–15 fall under the spanning head "Number of persons convicted or bound over in respect of".

TABLE VIII.—*Cognizable crime.*

Year.	Number of cases investigated by police.			Number of persons.		
	Suo motu.	By orders of magistrate.	Sent up for trial.	Tried.	Acquitted or discharged.	Convicted.
1	2	3	4	5	6	7
1902	1	...	1	2	...	2
1903	18	...	12	46	37	9
1904	3	...	2	3	3	...
1905	..	..	...	...	...	...
1906	2	...	1	1	..	1
1907	2	4	2	2	...	2
1908	5	5	5	6	1	5

NOTE.—Columns 2 and 3 should show cases instituted during the year.

TABLE IX.—*Revenue demand at successive settlements.*

Pargana.	Year of settlement.						
	1821.	1824.	1829.	1834.	1843.	1862.	1896.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Barahsyun ...	7,948	10,110	10,430	10,483	10.758	17,837	28,539
Badhan ...	5,583	6,183	6,639	6,775	6,649	7,800	10,895
Chandpur ...	7,781	8,667	9,260	9,353	9,066	10,757	16,216
Chaundkot ..	3,622	4,314	4,379	4,412	4,415	7,439	11,333
Dewalgarh ...	3,649	4,504	4,681	4,527	5,395	8,623	13,761
Painkhanda ...	972	1,018	1,275	1,147	1,218	2,527	2,527
Ganga Salan ...	7,585	9,1[illegible]8	9,421	9,542	9,476	14,072	21,695
Malla Salan ...	6,885	8,121	8,519	8,823	8,686	11,924	18,352
Talla Salan ...	5,014	6,415	6,578	6,740	7,048	11,581	18,973
Dasoli ...	114	128	56	214	85	3,453	4,887
Nagpur ...	5,229	5,937	6,154	6,314	6,420	12,988	10,549
Total ...	54,389	64,506	67,396	68,332	69,220	1,09,009	1,65,727*

		Rs.
* Made up of khalsa	... ...	1,48,245
gunth	... ...	10,651
sadabart	... ...	5,267
muafi	... ...	531
fee simple	... ...	1,031

TABLE X.—*Present demand for revenue and cesses for the year 1316 fasli.*

Pargana.	Revenue.	Cesses.	Total.
1	2	3	4
	Rs.	Rs.	Rs.
Barahsyun	26,717	2,850	29,567
Badhan	9,745	1,057	10,802
Chandpur	15,453	1,674	17,127
Chaundkot	10,816	1,134	11,950
Dewalgarh	12,956	1,365	14,321
Dasoli	111	488	599
Nagpur	13,172	1,907	15,079
Painkhanda	1,457	252	1,709
Ganga Salan	21,410	2,176	23,586
Malla Do.	17,922	1,836	19,758
Talla Do.	18,178	1,858	20,036

The revenue shown is *khalsa* revenue only; the incidence on area or cultivated area cannot be shewn as the whole of the district has not been surveyed.

Table XI.—*Excise.*

Year.	Receipts from foreign liquors.	Country spirit. Receipts.	Drugs. Total receipts.	Drugs. Consumption in maunds of *Charas.*	Opium. Total receipts.	Opium. Consumption.	Total receipts.	Total charges.	Incidence of receipts per 10,000 of population from— Liquor, including *tari.*	Incidence of receipts per 10,000 of population from— Drugs.	Incidence of receipts per 10,000 of population from— Opium.	Numbers of shops for sale of— Country spirit.	Numbers of shops for sale of— Drugs.	Numbers of shops for sale of— Opium.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Rs.	Rs.	Rs.	Mds. s.	Rs.	Mds. s.	Rs.	Rs.	Rs.	Rs	Rs.			
1890-91	7	4,317	1,865	.. *	1,138	2 8	6,557	2	106	46	28	6	13	12
1891-92	6	3,490	1,125	... *	1,025	2 6	5,645	98	85	28	25	6	7	6
1892-93	6	3,151	1,242	18 29	1,199	2 17	5,605	99	77	30	29	6	10	9
1893-94	15	2,905	1,314	17 32	1,086	2 7	5,320	4	71	32	27	5	11	7
1894-95	7	3,172	1,397	19 18	1,120	2 12	5,698	335	78	34	27	5	10	10
1895-96	6	4,568	1,332	13 33	1,105	2 22	7,011	53	112	32	27	7	11	7
1896-97	6	3,867	1,133	8 0	998	2 13	6,005	50	95	28	24	7	12	7
1897-98	6	3,598	936	8 3	996	2 9	5,536	286	88	23	24	7	12	9
1898-99	6	3,280	1,111	14 16	1,135	2 26	5,532	153	80	27	28	7	13	11
1899-1900	6	3,212	1,482	13 19	1,178	2 32	5,898	17	79	34	30	7	13	11
1900-01	6	3,945	2,905	9 34	1,425	2 39	8,284	565	92	67	33	8	17	15
1901-02	6	4,570	3,666	14 23	1,590	3 4	9,833	803	109	87	38	11	19	16
1902-03	54	6,119	4,519	14 17	2,162	4 7	12,854	639	147	107	51	15	21	18
1903-04	102	7,027	5,163	18 13	2,013	3 17	14,305	575	169	122	48	15	21	18
1904-05	99	7,208	7,460	32 27	2,304	3 23½	17,071	657	174	178	55	15	21	18
1905-06	102	7,295	6,209	16 9	2,876	3 33	16,483	889	76	148	68	15	21	18
1906-07	198	8,123	5,751	17 26	2,907	3 38½	16,979	606	198	136	68	15	19	18
1907-08	144	9,277	4,944	17 36	3,360	4 8½	17,725	569	224	117	80	15	19	18
1908-09	144	7,698	9,689	17 10	2,957	3 18½	19,367	470	207	183	70	15	19	18
1909-10														
1910-11														
1911-12														
1912-13														

* Consumption figures not available for these two years.

TABLE XII.—*Stamps.*

Year.			Receipts from			Total charges.
			Non-judicial stamps.	Court-fee, including copy stamps.	All sources.	
1			2	3	4	5
			Rs.	Rs.	Rs.	Rs.
1890-91	...	...	5,306	16,619	22,027	439
1891-92	...	...	5,555	18,254	23,996	515
1892-93	...	...	5,464	15,019	20,609	552
1893-94	...	...	6,344	16,685	23,167	741
1894-95	...	...	5,729	19,684	25,577	517
1895-96	...	...	5,693	22,198	28,194	735
1896-97	...	...	6,788	20,013	27,064	646
1897-98	...	...	5,582	21,353	27,287	552
1898-99	...	...	5,397	17,951	24,165	628
1899-1900	...	...	5,930	17,836	24,144	610
1900-01	...	...	6,776	19,795	26,811	257*
1901-02	...	...	7,478	19,775	27,486	768
1902-03	...	...	8,386	18,820	27,469	986
1903-04	...	...	7,656	17,498	25,371	907
1904-05	...	...	7,937	19,369	27,533	986
1905-06	...	...	8,377	21,575	30,182	974
1906-07	...	...	8,056	22,674	30,955	976
1907-08	...	...	9,750	23,802	33,815	953
1908-09	...	...	9,164	21,537	30,926	1,154
1909-10	...	...				
1910-11	...	...				
1911-12	...	...				
1912-13	...	...				

* Discount only.

Table XIII.—*Income-tax.*

Year.	Total receipts.	Other sources, Part IV. Under Rs. 2,000. Assessees.	Under Rs. 2,000. Tax.	Over Rs. 2,000. Assessees.	Over Rs. 2,000. Tax.	Total charges.	Objections under Part IV. Number filed.	Objections under Part IV. Wholly or partly successful.
1	2	3	4	5	6	7	8	9
	Rs.		Rs.		Rs.	Rs.		
1890-91	1,022	53	727	1	78	10	4	11
1891-92	976	56	728	2	130	...	...	...
1892-93	1,224	67	833	3	208	15	1	1
1893-94	1,422	80	995	3	247	...	16	2
1894-95	1,847	107	1,375	3	275	76	31	5
1895-96	1,489	84	1,031	2	182	60	24	5
1896-97	1,674	100	1,353	1	65	65	27	2
1897-98	1,730	102	1,259	2	182	70	13	3
1898-99	1,573	85	1,102	2	182	62	11	4
1899-1900	1,659	96	1,261	2	182	...	18	7
1900-01	2,037	123	1,659	2	182	60	3	3
1901-02	1,883	115	1,567	2	182	60	5	5
1902-03	2,248	145	1,982	3	266	73	39	21
1903-04	1,182	27	657	4	358	60	3	1
1904-05	998	29	720	3	148	60	10	4
1905-06	1,638	42	1,101	5	457	103	11	8
1906-07	1,782	51	1,265	5	350	60	13	4
1907-08	2,712	66	1,564	8	945	60	29	17
1908-09	2,984	56	1,350	13	1,448	59	28	6
1909-10								
1910-11								
1911-12								
1912-13								

Note.—As there is only one Tahsil, table XIV is omitted.

TABLE XV.—*District board.*

Year.	Receipts.								Expenditure.							
	Education.	Medical.	Scientific, etc.	Miscellaneous.	Civil works.	Pounds.	Ferries.	Total expenditure.	General administration.	Education.	Medical.	Scientific, etc.	Miscellaneous.	Civil works.	Pounds.	Debt.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1890-91 ...	212	3	...	597	..	64	...	65,960	401	8,263	1,176	...	1,439	54,681	...	...
1891-92 ...	201	6	...	432	181	347	...	56,144	396	8,304	1,121	...	1,592	44,731	...	...
1892-93 ...	120	230	...	497	...	345	...	48,897	397	8,471	2,990	...	1,676	35,363	...	...
1893-94 ...	179	430	...	691	143	59	...	49,656	506	7,866	2,939	...	1,748	36,597	...	...
1894-95 ...	176	1,117	...	713	10	298	...	41,581	439	7,502	2,516	...	1,175	29,849	...	...
1895-96 ...	289	121	...	517	128	205	...	62,432	475	7,780	2,796	...	704	50,677	...	...
1896-97 ...	244	255	...	671	19	..	...	57,835	510	10,418	2,721	...	1,550	42,636	...	...
1897-98 ...	231	2	..	...	793	45	...	58,252	610	10,069	4,385	...	159	43,029	...	...
1898-99 ...	296	138	...	...	438	323	...	52,859	811	9,135	3,145	...	144	39,524	...	100
1899-1900 ...	430	245	...	...	1,702	*696	...	63,978	891	11,524	3,391	...	187	47,354	531	100
1900-01 ...	528	240	...	...	427	987	†1,412	86,471	844	12,072	3,413	...	180	69,362	550	50
1901-02 ...	679	63	...	†·	492	828	1,059	41.786	879	12,139	3,345	...	191	24,658	574	...
1902-03 ...	1,829	122	..	...	423	1,047	1,073	73,891	1,398	17,913	4,191	424	175	49,158	632	...
1903-04 ...	1,786	120	...	..	685	983	1,110	64,056	1,200	22,351	4,345	721	172	34,712	555	...
1904-05 ...	2,043	120	...	...	806	1,055	1,471	62,100	1.422	21,435	3,923	779	210	33,834	497	...
1905-06 ...	2,923	735	..	140	807	735	1,435	1,08,393	1,603	32,011	5,362	870	170	67,775	552	50
1906-07 ...	4,361	720	5	120	781	918	1,580	1,30,147	2,206	34,528	9,760	825	113	82,067	598	50
1907-08 ...	5,022	787	...	121	801	1,477	1,618	1,00,829	2,373	39,097	11,615	1,079	164	45,658	794	49
1908-09 ...	4,452	851	...	129	600	1,428	858	1,07,554	2,270	40,668	12,565	1,925	207	48,935	686	487
1909-10 ...																
1910-11 ...																
1911-12 ...																
1912-13 ...																
1913-14 ...																

* Formerly net receipts only were shown. From this year receipts and also expenditure are given.

† From this year the gross receipts from ferries were for the first time credited to the district board.

TABLE XVII.—*Distribution of police*, 1910.

Thana or post.				Sub-inspectors.	Head constables.	Constables.	Town police.
1				2	3	4	5
						Thanas.	
Kotdwara	...	...	..	1	1	6	2
Lansdowne	...	...	...	1	1	9	...
Srinagar	...	...	...	1	1	6	4
Pauri	.	...	...	.	1	3	...
					Pilgrim posts.		
Joshimath	.	...	...	1	...	3	...
Ukhimath	...	...	...	...	1	3	...
Karanprayag	...	...	...	...	1	3	...
Badrinath	...	...	...	...	1	3	...
Chamoli	...	...	...	...	1	3	...
Lohba	...	...	.	...			
Lachhmanjhula	...	...	...	...	1	3	...
Deoprayag	...	...	...	...	1	3	...

TABLE XVIII.—*Education.*

Year.	Total.			Secondary education.			Primary education.		
	Schools and colleges.	Scholars.		Schools.	Scholars.		Schools.	Scholars.	
		Males.	Female.		Males.	Females.		Males.	Females.
1	2	3	4	5	6	7	8	9	10
1896-97 ...	95	3,701	96	4	209	96	91	3,492	...
1897-98 ...	75	2,252	86	4	147	86	71	2,105	...
1898-99 ...	83	2,392	81	4	195	81	79	2,197	...
1899-1900 ...	102	3,302	73	4	209	73	98	3,093	...
1900-01 ...	103	3,184	64	4	226	64	99	2,958	...
1901-02 ...	91	3,617	62	4	246	62	87	3,371	...
1902-03 ...	121	4,708	79	7	412	62	114	4,296	17
1903-04 ...	122	4,754	76	7	459	61	115	4,295	15
1904-05 ...	126	5,147	15	7	478	62	119	4,607	15
1905-06 ..	146	6,112	183	7	568	56	139	5,544	127
1906-07 ...	166	6,562	195	7	655	65	159	5,907	130
1907-08 ...	186	6,793	159	8	638	68	178	6,155	91
1908-09 ...	204	6,760	311	8	586	65	196	6,174	246
1909-10 ...									
1910-11 ...									
1911-12 ...									
1912-13 ...									
1913-14 ...									

List of schools, 1910.

Pargana.	School.	Class.	Attendance.
	I.—Secondary.		
Nagpur ...	Pokhri or Nag Nath ...	Middle school.	57
Dewalgarh ...	Srinagar or Khirsu ...		23
Barahsyun ...	Kanskhet, Maniyarsyun ...		42
Ganga Salan ...	Matyali, Langur ...		54
Malla Salan ...	Pokhra, Talain ...		63
	II.—Primary.		
Dasoli ...	Ghat, M. Dasoli ...		13
Do. ...	Langasa, T. Dasoli	A. Upper primary school.	10
Badhan ...	Tharali, Pindarpar ...		56
Do. ...	Dimmar, Kapiri ...		61
Chandpur ...	Ganwali, Lohba ...		28
Do ...	Bainoli, Chandpur ...		33
Nagpur ...	Guptkashi M. Kaliphat ...		24
Do. ...	Maikot, T. Nagpur		29
Do. ...	Chopra, Dasjyuli ...		35
Do. ...	Kandai do		40
Do. ...	Pokhri, B Nagpur ...		31
Do. ...	Raduwa, Khader ...		23
Do. ...	Gopeswar, M. Nagpur ...		30
Dewalgarh ...	Bhattisera, Chalansyun ...		50
Do. ...	Panain, Dhanpur		35
Do. ...	Sumari, Katholsyun ...		43
Do. ...	Pipali, Ghurdorsyun ...		46
Barahsyun ...	Kot, Sitonsyun		39
Do. ...	Pauri, Nadalsyun ...		58
Do ..	Ghorikhal Paidulsyun ...		37
Do	Agrora, Kapholsyun ...		60
Do. ...	Naithana, Maniyarsyun ...		44
Do.	Nagar, Aswalsyun		35
Do.	Lwali, Gagwarsyun ...		57
Do.	Ghiri, Banelsyun ..		49
Ganga Salan	Pali, Langur		99
Do.	Gadsi, Ajmir		96
Do ...	Dikher, Dabralsyun ...		46
Do. ..	Kimsar, W. Udepur ..		46
Do. ...	Bareth, M. Dhangu		50
Do. ...	Jiyadamrara, Udepur ...		57
Talla Salan ..	Dungri, Bijlot ...		37
Do ...	Dudharkhal, Badalpur ...		38
Do. ...	Naini Danda, Bijlot ...		59
Malla Salan ..	Pokhra, Talain		89
Do ...	Bironkhal, Khatli ...		51
Do. ...	Saindhar, Saindhar		37
Do.	Kilbokhal, Iriyakot		26
Chaundkot ...	Ringwari, Ringwarsyun		55
Do. ...	Patal, Maundarsyun ...		59

List of schools, 1908.

Pargana.	School.	Class.	Attendance.
	II.—Primary		
Painkhanda	Joshimath	B. Lower primary schools.	12
Do.	Gamsali		12
Do.	Mana		28
Dasoli	Ghat, M. Dasoli		13
Do.	Gadora, Band		26
Badhan	Kolsari, Pindarpar		17
Do.	Kheti, Do.		11
Do.	Debal, Do.		24
Do.	Harmanidhar, Badhan		16
Chandpur	Kalun, Choprakot		16
Do.	Nauti, Chandpur		19
Do.	Ratura, Do.		23
Do.	Bagoti, Sirgur		13
Do.	Melchauri, Lohba		17
Nagpur	Mandal, M. Nagpur		12
Do.	Kandara, T. Kaliphat		34
Do.	Silla, Do.		12
Do.	Parkandi, M. Do.		26
Do.	Maikhand, Do.		20
Do.	Girsa, B. Nagpur		43
Do.	Siwai, Do.		12
Do.	Bawai, T. Do.		26
Do.	Satyara, Nagpur		13
Dewalgarh	Rudrprayag, Dhanpur		8
Do.	Jasoli, Do.		15
Do.	Pokhri, Chalansyun		27
Do.	Dewalgarh, Do.		26
Do.	Chopraiyun, Ghurdorsyun		33
Do.	Jamankhal, Katholsyun		20
Do.	Dewal, Ranigadh		23
Barahsyun	Digoti, Rawatsyun		26
Do.	Thapli, Kapholsyun		35
Do.	Paidul, Paidulsyun		25
Do.	Khadar, Do.		35
Do.	Hairakhal, Khatsyun		32
Do.	Duisi, Manyarsyun		23
Do.	Bilkhet, Do.		15
Do.	Kandorpani, Aswalsyun		32
Do.	Sulla, Do.		24
Ganga Salan	Mandai, Ajmir		28
Do.	Pankhal, Do.		26
Do.	Amola, Do.		28
Do.	Thantoli, M. Dhangu		17
Do.	Jhair, T. Dhangu		19
Do.	Palyasu, Karaundu		23
Do.	Dalmikhet, Langur		23
Do.	Pokhri, M. Udepur		23
Do.	Thangar, W. Udepur		36
Do.	Linli, T. Udepur		23

List of schools 1908.

Pargana.	Schools.	Class.	Attendance.
	II.—Primary.—(concld).		
Talla Salan ...	Auleth, Bungi ...	B. Lower primary school.	23
Do. ...	Unta, Do. ...		16
Do. ...	Badyargaon, Painon ...		32
Do. ...	Dabri, Painon ...		30
Do. ...	Aunkhet, Sila ...		31
Do. ...	Sukhrao, Bhabar ...		25
Malla Salan ...	Bangar, Sabli ...		27
Do. ...	Kota, Khatli ...		32
Do. ...	Churani, Iriyakot ...		19
Do. ...	Bhaun, Do. ...		11
Do. ...	Digolikhal, Gujru ...		13
Do. ...	Parsoli, Gujru ...		27
Do. ...	Dhaund, Dhaundyalsyun ...		25
Chaundkot ...	Nai, Pingalapakha ...		26
Do. ...	Mason, Mawalsyun ...		21
Do. ...	Dhandkhal, Do. ...		19
Do. ...	Kulasu, Jaintolsyun ...		26
Do. ...	Bachbeli, Mandyarsyun ...		15
Do. ...	Rithakhal, Gurarsyun ...		28

ROADS.—*Provincial.*

N.	Grade.	Road.	Length. Miles.	Length. Furlongs.
1	A.—First class road metalled, bridged and drained throughout.	Kotdwara-Lansdowne cart road, Kotdwara-Dogadda section.	9	7
2	A.—Second class, unmetalled roads, bridged and drained throughout.	Hardwar-Badrinath Lachhmanjhula to Badrinath.)	164	...
3	...	Rudrprayag-Kedarnath ...	53	...
4	...	Chamoli-Guptkashi ...	27	...
5	...	Dogadda to Srinagar ...	47	...
6	...	Karanprayag to Khairna (Karanprayag to Pandwakhal.)	28	...
7	...	Kotdwara town to Khoh bridge cart road.	...	6
8	B.—Second class, unmetalled roads, partially bridged and drained throughout.	Lansdowne-Najibabad (Fatehpur to Kauria and several other branches.)	2	1

N.B.—There is also a military works department cart road connecting Lansdowne and Dogadda. Its length is 15¾ miles. The road is bridged and with the exception of the four upper miles it is metalled. The road was made over to the public works department on 1st April 1909.

ROADS.—*Local.*

1	A.—Second class roads, unmetalled, bridged and drained throughout.	Nandprayag Gwaldam road ...	39	...
2		Pauri-Samai	48	...
1	B.—Second class roads, unmetalled, partially bridged and drained throughout.	Joshimath-Niti ..	41	...
2		Adwani-Byansghat ...	9	...
3		Ayardhar-Lansdowne ...	5	...
4		Banjbagar-Lohba ..	21	...
5		Baijrao-Bungidhar ...	16	...
6		Byansghat-Dangal ..	15	...
7		Chaukighat	39	...
8		Budasani-Dwarikhal ..	26	...
9		Bungidhar-Lobha ...	13	...
10		Chatwapipal-Ukhimath ...	29	...
11		Ditto Mandakhal ...	35	...
12		Chamoli-Pokhri ..	13	...
13		Chandpur-Ukhlat ..	56	...
14		Srinagar-Musagali .	12	...
15		Dewali-hal-Kuiroli ...	5	...
16		Dipakhal Mandeb ..	15	...
17		Dobri-Kirsal	5	...
18		Ukhlet Domaila ..	29	...
19		Fatehpur-Ukhlet	13	...
20		Pauri-Deoprayag ..	15	...
21		Raipur-Dhentyal	10	...
22		Gwaldam-Ramni	38	...
23		Tapoban Ghat	34	..
24		Joshimath Niti	41	...
25		Saraunkhal-Joripani ..	9	...
26		Kainyur Marchula ...	40	...
27		Mandakhal-Mason ...	7	...
28		Seria-Mandal	22	...
29		Pauri Saraikhet	45	...
30		Jhorali-Simli	23	...

FERRIES, 1909.

Ferry.	Description of ferries.	Name of patti.
Dhari	Jhula ...	Chalansyun.
Kothar	Boat ..	Katulsyun.
Ranihat ..	Do. ..	Ditto.
Kandi (Baklerghat)	Jhula ..	Banelsyun.
Uttrasu	Do ...	Bangarsyun.
Rampur Talla ...	Do	Rawatsyun
Tini	Do. ..	Dhanpur.
Kyunjgarh	Do. ..	Talla Kaliphat.
Bedubagar	Do. ...	Ditto.
Agastmuni	Do. ...	Ditto
Chandrapuri	Do. ...	Ditto.
Kakraghat	Do. ...	Malla Kaliphat.
Tilbara	Do. ...	Talla Nagpur.
Uttiasu Rudrprayag ...	Do.	Ditto.
Rampur	Do. ...	Ditto.
Kathagi	Do ..	Dasgula.
Bagmunda	Do. ..	Talla Dasoli.
Kald (Khunain) ...	Do.	Ditto.
Langasu	Do. ...	Ditto.
BanalaDasoli	Chinka ...	Ditto.
Nauli	Jhula ..	Bichla Chandpur.
Nalgaon	Do.	Shirgur Karakot.
Tatasu	Do ...	Talla Chandpur.
Dhunargaon (Phulasi)	Boat ..	Talla Dhangu
Dhangugarh	Jhula	Ditto.

POST OFFICES, 1909.

Pargana.	Office.	Class.
Barahsyun ...	Pauri	Head office.
	Naithana	Branch office.
	Kot	Ditto.
	Paidul	Ditto
	Toli	Branch office.
	Adwani	Ditto.
	Byansghat	Ditto.
	Deoprayag	Sub office.
Dewalgarh ...	Srinagar	Sub office.
	Chipalghat	Branch office.
	Rudrprayag ..	Ditto.
	Dungripant...	Ditto.
	Pokhra	Sub office.
Malla Salan ...	Churani	Branch office.
	Bironkhal	Ditto.
	Baijrao	Ditto.
	Baret	Ditto.
Talla Salan ...	Dogadda	Branch office.
	Kalagiri	Sub office.
	Kotdwara	Ditto.
	Lansdowne ...	Ditto.
Chandpur ...	Karanprayag	Sub office.
	Bungidhar	Branch office.
	Adbadri	Ditto.
	Kainyur	Ditto
Ganga Salan ...	Banghat	Branch office.
	Thangar	Ditto.
	Deosa	Ditto.
	Goil	Ditto.
	Lachhmanjhula	Ditto.
	Mahadeochatti	Ditto.
Badhan ...	Tharali	Branch office.
	Narainbagar	Ditto.
Chaundkot ...	Ringwari	Branch office.
	Rithkakhal	Ditto.
	Patal	Ditto.

NOTE.—Of the above, Thangar, Deosa, Goil, Kalagiri, Lansdowne, Kotdwara and Dogadda are under the Bijnor head office.

POST OFFICES, 1909—(*concluded*).

Pargana.	Office.	Class.
Dasoli ...	Nandprayag	Branch office.
	Pipalkoti	Ditto.
	Ghat	Ditto.
Nagpur ...	Ukhimath	Branch office.
	Chamoli	Ditto.
	Pokhri	Ditto.
	Agastmuni	Ditto.
	Guptkashi	Ditto.
	Chamoli	Sub office.
Painkhanda ...	Joshimath	Branch office.
	Badrinath	Ditto.
	Hilang	Ditto.

Fairs.

Pargana.	Patti.	Locality.	Name of fair.	Date.	Approximate average attendance.
Chaunkot	Gujru ..	Salt Mahadeo.	Makrani ...	Magh Nagla Sankrant, middle of January.	
	Iriakot ..	Jhalka Ran	Do. ...	Do.	
	Gujru ..	Salt Mahadeo.	Bikhwati...	Bikhwat Sankrant, middle of April.	
	Jaintolsyun.	Igasar ...	Do. ...	Do.	
Dewalgarh	Gujru ...	Salt Mahadeo.	Do. ...	Do.	
	Chauthan..	Binsar ...	Baikunth Chaturdasi.	Kartik, November.	8,000-10,000
	Dhanpur ..	Hiragali Devi.	Haryali Devi.	Depawali Kartik, October or November.	1,000
	Do. ...	Punar ...	Makrani ..	Magh Sankrant, January.	500—600
	Do. ...	Do. ..	Bikhwati ..	Bikhwat Sankrant, April.	500—600
	Chalansyun	Raggasewari.	Rajrajenvari Devi	Asoj, October.	300—400
	Kandarsyun.	Paithani	Shibratri...	Falgun, February.	
Barashyun	Dhaijyuli	Kot Kandai.	Do. ...	Do.	
	Kathulsyun	Srinagar Kamleswar.	Baikunth Chaturdasi.	Kartik, November.	5,000
	Do. ...	Do. ...	Achla saptimi.	Magh, January.	1,000
	Idwalsyun	Bilwa Kedar.	Bikhwati...	Baisakh, April.	8,000
	Rawatsyun	Kanda ...	Bhayaduj...	Kartik, October or November.	4,000
	Sitonsyun	Khola ...	Jahur and Jhangar.	Baisakh, April.	1,000
	Do. ...	Wada ...	Do. ...	Do.	
	Do. ...	Kathurh...	Do. ...	Do.	
	Kadwalsyun.	Bah ...	Sirpanchmi Makar or Sankrant.	January	
	Banelsyun	Byansghat	Bikhwal ...	Baisakh, April.	
	Kandwalsyun.	Labdhar ...	Jhangar ...	Baisakh, April.	

Fargana.	Patti.	Locality.	Name of fair.	Date.	Approximate average attendance.
Burashsyun.	Aswalsyun	Mundan ...	Mundan Mahadeo.	Jeth, May..	3,000
	Paidulsyun	Rithaigaon	Jhali Mali	Do. ...	2,000
	Sitonsyun	Kal Falsars near Duil village.	Mansar ..	Kartik, November.	1,500
	Kapholsyun	Jwalpa ..	Ashtbali ..	Jeth, May	5,000
	Maniyarsyun west.	Saugara	Do. ..	Do ...	4,000
Chamoli	Bichla Nagpur.	Bamnath..	Shibratri...	Falgun, February	
	Do. ...	Nagnath..	Janamastmi.	Bhadon, August.	
	Talla Do.	Rudr prayag.	Makar Sankrant.	Magh, January.	
	Malla Do.	Ansuya Mai	Puranmashi.	Mangshir, November to December.	
	Do. ..	Gopeswar	Shibratri...	Falgun, February.	
	Malla Kaliphat.	Tungnath	Rishi Puranmahsi.	Salvan, August.	
	Do. ...	Maku ...	Bhikwati...	Baisakh, April.	
	Do. ...	Gupt Kashi	...	When there is an eclipse.	
	Talla Kaliphat.	Sila ...	Bikhwati...	Baisakh, April.	
	Do. ...	Phegu ...	Do. .	Do.	
	Malla Painkhanda	Joshimath	Departure of Rawal to Badrinath.	Baisakh, May.	
	Talla Painkhanda.	Mata Murli	Baman Dwadasi.	Bhadon, September.	
	Do. ...	Pandukeswar.	Departure of the Rawal to Badrinath.	Baisakh, May.	
	Dasoli Talli.	Nandprayag	Makar Sankrant.	Magh, January.	
	Do. ...	Do. ...	Bikhwa ...	Baisakh, April.	
	Do. ...	Bairas Kund.	Shibratri	Falgun, February.	

List of settlement pattis and patwari circles.

Name of pargana		No.		Name of settlement patti.	No.		Name of patwari circle.
I	Bara-syun.	1	1	Nandalsyun	1	1	Nandalsyun and Paidulsyun.
		2	2	Idwalsyun	2	2	Idwalsyun.
		3	3	Gagwarsyun	3	3	Gagwarsyun and Patwalsyun.
		4	4	Sitonsyun	4	4	Sitonsyun.
		5	5	Rawatsyun	5	5	Bangarhsyun and Rawatsyun.
		6	6	Bangarhsyun			
		7	7	Kandwalsyun	6	6	Kandwalsyun.
		8	8	Banelsyun	7	7	Tarsyun.
		9	9	Paidulsyun			
		10	10	Kapholsyun	8	8	Kapholsyun and Khatsyun.
		1	11	Khatsyun			
		12	12	Patwalsyun			
		13	13	Aswalsyun	9	9	Aswalsyun.
		14	14	Manyarsyun	10	10	Manyarsyun East.
					11	11	Manyarsyun West.
II	Chaund-kot.	15	1	Mawalsyun	12	1	Mawalsyun and Ringwarsyun.
		16	2	Ringwarsyun			
		17	3	Jaintolsyun	13	2	Jaintolsyun.
		18	4	Maundarsyun	14	3	Maundarsyun.
		19	5	Kimgaddigadh	15	4	Kimgaddigadh and Pinglapakha.
		20	6	Pinglapakha			
		21	7	Gurarsyun	16	5	Gurarsyun.
III	Malla Salan.	22	1	Talain	17	1	Talain and Kolagadh.
		23	2	Kolagadh			
		24	3	Iriyakot	18	2	Iriyakot Malla.
					19	3	Iriyakot Talla.
		25	4	Bangarsyun	20	4	Bangarsyun.
		26	5	Dhaundyalsyun			
		27	6	Meldhar			
		28	7	Sabli	21	5	Sabli.
		29	8	Khatli	23	6	Khatli Walla.
					22	7	Khatli Palla.
		30	9	Saindhar			
		31	10	Gujru	24	8	Gujru.
IV	Talla Salan.	32	1	Bijlot Walla	25	1	Bijlot.
		33	2	Bijlot Palla	26	2	Bungı.
		34	3	Bungi	27	3	Painon
		35	4	Painon	28	4	Badalpur Malla.
		36	5	Badalpur Malla			
		37	6	Badalpur Talla	29	5	Badalpur Talla.
					30	6	Badalpur Bichla.
		38	7	Sila Malla	31	7	Sila.
		39	8	Sila Talla			
		40	9	Kauriya Walla	32	8	Kauriya.
		41	10	Kauriya Palla			
		42	11	Bhabar			

Name of pargana		No.		Name of settlement patti.	No.		Name of patwari circle.
V	Ganga-salan.	43	1	Langur ...	33	1	Langur Walla.
					34	2	Langur Palla.
		44	2		35	3	Ajmir Walla.
		45	3	Ajmir ...	36	4	Ajmir Palla.
					37	5	Dabralsyun.
		46	4	Udepur Malla ...	38	6	Udepur Malla.
		47	5	Udepur Bichla ...	39	7	Udepur Walla.
					40	8	Udepur Palla.
		48	6	Udeipur Talla ...	41	9	Udepur Talla.
		49	7	Dhangu Malla ...	42	10	Dhangu Malla.
		50	8		43	11	Dhangu Bichla.
		51	9				
				Dhangu Talla ..	44	12	Dhangu Talla.
				Karaundu Walla ...			
				Karaundu Palla ...	45	1	Kathulsyun.
VI	Dewal-garh.	52	1	Kathulsyun ...	46	2	Chalansyun.
		53	2	Chalansyun ..	47	3	Bachhansyun.
		54	3	Bachansyun ...	48	4	Dhanpur.
		55	4	Dhanpur ...	49	5	Ranigadh.
		56	5	Ghurdorsyun ...	50	6	Ghurdorsyun and Bidolsyun.
				Bidolsyun ...			
		57	6	Kandarsyun ...	51	7	Kandarsyun.
		58	7				
VII	Chand-pur.	59	1	Choprakot ...	52	1	Bali.
					53	2	Choprakot.
		60	2	Dhaijyuli ...	54	3	Dhaijyuli.
		61	3	Chauthan ...	55	4	Chauthan.
		62	4	Lohba ...	56	5	Lohba.
		63	5	Ranigarh ...	57	6	Chandpur Malla.
		64	6	Chandpur Taili ...	58	7	Chandpur Bichla.
		65	7	Chandpur Sili ...	59	8	Chandpur Talla.
		66	8	Sirgur ...	60	9	Sirgur and Karakot.
VIII	Badhan	67	1	Kapiri ..			
		68	2	Karakot ...			
		69	3	Khansar ...	61	1	Khansar.
		70	4	Pindarwar ...	62	2	Badhan Walla.
					63	3	Badhan Palla.
		71	5	Pindarpar ...	54	4	Pindarpar.
		72	6	Nandak ...			
IX	Dasoli	73	1	Dasoli Malli ...	65	1	Dasoli Malli and Nandak.
		74	2	Dasoli Talli ...	66	2	Dasoli Talli and Band
		75	3	Band			
X	Nagpur	76	1	Kaliphat Malla ...	67	1	Kaliphat Malla.
		77	2	Kaliphat Talla ...	68	2	Kaliphat Talla.
		78	3	Maikhanda ...			
		79	4	Parkandi ..			
		80	5	Bamsu ...			
		81	6	Nagpur Malla ...	69	3	Nagpur Malla.
		82	7	Nagpur Bichla ...	70	4	Nagpur Bichla.
		83	8	Nagpur Talla ...	71	5	Nagpur Talla.
		84	9	Urgam ...	72	6	Khader.
							Dasjyula.
					73	7	Painkhanda Malla.
XI	Pain-khanda.	85	1	Painkhanda Malla...	74	1	
		86	2	Painkhanda Talla ...	75	2	Painkhanda Talla and Urgam.

NOTE.– Malla mean upper and Talla lower, with reference not to the altitude of the village or patti but to its position on the course of a stream or river : Walla means hither and Palla further : Sili sunny and Talli shady : and Bichla is middle.

GAZETTEER OF GARHWAL.

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